

II. *Revision of the Mexican and Central American Telephorinae (Fam. Telephoridae), with descriptions of new species.* By GEORGE CHARLES CHAMPION, F.Z.S.

[Read November 18th, 1914.]

PLATES III—IX.

THIS paper concludes the revision of the Mexican and Central American *Telephoridae*. The *Chauliognathinae* were dealt with in Part I of the Transactions of our Society for the present year. The abundant additional material received from Mexico since 1885 has of course greatly increased our knowledge of these insects, and the dissection of the males of *Discodon*, *Photinomorpha*, *Polemius*, etc., has revealed an extraordinary genital armature. These structures, however, are much more difficult to describe from dried specimens than those of the *Chauliognathinae*, the rigid median and lateral lobes in the latter being easily seen. In *Discodon* and its allies there are no corresponding lobes present, and the complex armature of spines and hooks is usually in part or wholly withdrawn into the internal sac, and is only visible when the insects have died with the armature evaginated. Fortunately, amongst the specimens dissected some have been found in this condition (Plate V, figs. 16, 22, 23a), so that we are able to give figures of several of them. In the males of all the Silini the polished glabrous ventral segment covered by the divided exposed terminal one (seventh) is assumed to be the eighth and the smaller following one the ninth. Both are really flattened tubes, usually with a longer ventral and a shorter dorsal surface, the latter often divided at the apex into two short, broad lobes or claspers. In a few cases a very long, slender, chitinous flagellum has been detected, this piece doubtless remaining in most cases in the body after the aedeagus has been extracted. It is impossible, therefore, to compare the various structures satisfactorily from the dried insects; but sufficient differences have been found to show the important characters (such as are well known to occur in

Malthodes) present in the ♂ armature. In *Podabrus* there is an additional exposed ventral segment, the ninth segment has symmetric lateral lobes, and the membranous internal sac, when seen evaginated (Plate IV, fig. 2), is apparently free from hooks or spines. In *Maronius* and *Belotus*, genera with greatly abbreviated elytra and tubuliform processes along the margins of the abdomen, the genital armature is highly developed and asymmetric, and very like that of the *Chauliognathinae*.

The Silini may be grouped by the form of the tarsal claws, and the position of the lateral incisions of the prothorax, in the males. The species mimicking Lampyrids and Lycids are, as usual, difficult to locate till their structural characters have been examined.

The consecutively numbered illustrations on Plates IV–VII, figs. 1–49, show the evaginated and non-evaginated condition of the ♂ genital armature—the tips only of two or four spines being visible in the distal opening of the internal sac in most specimens of the dried insects—the form of the seventh, eighth, or ninth ventral segment, etc. The descriptions of the armature are taken from dried examples, and are therefore incomplete. With one exception, the whole of the species of the subfamily *Telephorinae* recorded by Gorham from Central America in 1881–1885 were described as new. The 183 species now enumerated from the same region include 72 novelties and 11 forms added by Pic during recent years. Three new genera are also characterised.

Subfam. TELEPHORINAE.

Group TELEPHORINI.

The group including *Telephorus*, *Rhagonycha* and allied forms is represented in Mexico by the genus *Podabrus*, which is characterised by the undivided, exposed terminal ventral segment of the male, the symmetric genital armature, and the toothed or cleft tarsal claws and simple prothorax in both sexes. *Discodon* is closely related to *Polemius* and *Silis*, and must be placed in the same group. *Plectonotum*, included in the Silini by Gorham, has the thickened lateral margin of the prothorax abbreviated before the base, but it agrees in other respects with the Telephorini, and seems best placed here. It is probable that nearly

all the Tropical American species described under *Telephorus** are referable to *Chauliognathus*, *Discodon*, or *Polemius*.

PODABRUS.

Podabrus, Westwood; Gorham, Biol. Centr.-Am., Coleopt. iii, 2, p. 284 (1885).

Gorham described a single species of this holarctic genus from N. Mexico, his types of which are males. A second, from Durango, was subsequently received from Höge. Two Miocene forms from Florissant have recently been named by Wickham. In *Podabrus* eight ventral segments are exposed, the eighth being oval and uncleft in ♂. The evaginated membranous internal sac of the aedeagus is shown on Plate IV, fig. 2.

1. *Podabrus mexicanus*.

Podabrus mexicanus, Gorh., loc. cit.; Schaeff., Journ. N. York Ent. Soc. xvi, p. 62.

♂. Eighth ventral segment rather large, oval; ninth segment broadly semicircularly excavate, divided towards the apex into two rather broad, sinuous, concave subacuminate lobes, the corresponding dorsal segment also bilobate, the two lobes broadly rounded at the apex. (Fig. 1.)

Hab. NORTH AMERICA, Huachuca Mts., Arizona; MEXICO, Chihuahua.

2. *Podabrus caliginosus*, n. sp.

Elongate, narrow (♂), broader (♀), black, the base of the mandibles, the sides of the head in front, and the prothoracic margins obscure testaceous or rufo-testaceous. Head together with the prominent eyes broader than the prothorax in ♂, narrower than the much broader prothorax in ♀, coarsely, closely punctate; antennae nearly reaching the middle of the elytra in ♂, shorter in ♀. Prothorax subquadrate and very little wider than one of the elytra in ♂, much larger and strongly transverse in ♀, irregularly punctate, the disc with an oblique groove on each side of the median sulcus at the base. Elytra parallel, long, much broader in ♀,

* *T. monticola*, Gorh., from Ecuador, if the intermediate and posterior tarsi really have one of the claws cleft in ♂, must be a *Discodon*. The cleft seventh ventral segment of ♂ shows that it is not a *Telephorus*.

roughly sculptured and distinctly costate. Tarsal claws with a sharp tooth which is much shorter than the claw itself.

♂. Eighth ventral segment moderately large, oval; ninth segment semicircularly excavate, divided into two lobes, the apices of which are shorter, narrower, and more sinuate than in *P. mexicanus*, the lobes of the corresponding dorsal segment narrower and shorter, obliquely subtruncate externally. (Fig. 2.)

Length (excl. head) 9-11, breadth $2\frac{1}{2}$ - $3\frac{1}{2}$ mm. (♂ ♀.)

Hab. MEXICO, Ciudad in Durango (*Höge*).

One pair. Less elongate than *P. mexicanus*, the prothorax of the male much smaller and narrower, the antennae (♂) shorter, the head black in front, the terminal abdominal segments somewhat differently shaped in ♂.

PLECTONOTUM.

Plectonotum, Gorham., Biol. Centr.-Am., Coleopt. iii, 2, p. 306 (1885) (sine descr.); in Whympers's Great Andes, Supp. App., p. 51 (1891).

Gorham's type of *Plectonotum*, *P. nigrum*, was from Ecuador, and his *P. labiale* is presumably congeneric with it. The seventh ventral segment of the latter is undivided in the male and the genus therefore cannot be very nearly related to *Silis*. The ♂ tarsal claws are unclenched. The prothorax has a thickened bead-like margin extending backward to near the acute hind angles, and it is very similarly shaped in the two sexes. *Asilis* (*Aclytia*) *tenuiculus*, Broun, from New Zealand, is very like *P. labiale*. Several species of *Plectonotum* from South America have recently been described by Pic and one from Arizona by Schaeffer.

1. *Plectonotum labiale*. (Plate VIII, fig. 50, prothorax, ♂.)

Plectonotum labiale, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 307.

♂. Eyes large; antennae very long, as long as or longer than the body, closely set with rather long projecting hairs; last ventral segment transverse.

♀. Eyes smaller; antennae much shorter, about reaching the middle of the elytra, clothed with shorter hairs.

Hab. PANAMA, Volcan de Chiriqui.

A long series seen, females as usual preponderating.

Group SILINI.

The genera here placed under the Silini agree in the following characters: Seventh ventral segment of ♂ completely divided down the middle, the eighth polished and covered by the seventh; genital armature symmetric, consisting (at least in *Discodon* and *Polemius*) of several pairs of hooks or spines, which can be withdrawn within the internal sac; last joint of maxillary palpi securiform or cultriform; prothorax (except in a few species) notched at sides in ♂, and often to a less degree in ♀; elytra long. This group is abundantly represented throughout Tropical America, and includes the following genera—*Discodon*, *Polemius*, *Silis*, *Parasilis*, *Malthaster*, etc.

DISCODON.

Discodon, Gorham, Biol. Centr.-Am., Coleopt. iii, 2, pp. 78 (1881), 285 (1885) (part.); Schaeffer, Journ. N. York Ent. Soc. xvi, p. 61 (1908).

The principal characters given for *Discodon* are the cleft external tarsal claws, the feebly notched sides of the prothorax, and the bilobed or divided seventh ventral segment, of the male. This definition applies to most of the species included in the genus by Gorham, but, on examination, six of them (*serricorne*, *lugubre*, *difficile*, *photinoides*, *flaccidum*, and *bivittatum*) prove to have the corresponding tarsal claws simply lobed at the base and undivided at the tip, and one of them (*serricorne*) wants the prothoracic notch. As *Discodon* (type, *D. erosum*, Gorh.) can only be separated from *Polemius*, Lec. (type, *Cantharis laticornis*, Say), by the cleft claw of one or more of the ♂ tarsi, the six species above mentioned must be transferred to Leconte's genus. Numerous forms, too, placed by Gorham under *Silis*, in his Supplement to the "Biologia," have one or more of the ♂ tarsal claws cleft, and they are here included under *Discodon*; some of these insects are closely related to *D. tenue* and *D. cinereum*, others, *D. serrigerum* and its allies, all of which have broad, serrate, tapering antennae, mimic Lycids. *D. lampyroides*, *normale*, and *luridum*, on the other hand, have the general facies of Lampyrids. Schaeffer has recently described four species of *Discodon* from the Southern United States,* and *Polemius planicollis*,

* *D. telephorooides* must be a *Polemius*.

Lec., also belongs here. The Mexican and Central American forms are divisible into three groups according to the number of cleft tarsal claws—3, 2, or 1—in ♂. The other characters given in the following table are also taken from the same sex.*

- I. Anterior, intermediate, and posterior tarsi with one of the claws cleft: species Telephoriform.
- a. Anterior tarsi with the cleft claw triangularly dilated or lobed at base; prothoracic margins notched at or behind middle *Species 1-10.*
- b. Anterior tarsi with the cleft claw more feebly dilated at base: species small or of moderate size.
- a¹. Prothoracic margins obliquely compressed at middle and notched in front of the hind angles *Species 11.*
- b¹. Prothoracic margins notched at or behind middle, the basal notch wanting *Species 12-25.*
- II. Anterior tarsi with one of the claws broadly lobed at base and the intermediate and posterior tarsi with one claw cleft.
- c. Ventral segment 7 divided into a pair of claspers; prothoracic margins notched at middle: species small *Species 26.*
- d. Ventral segment 7 simply divided down the middle.
- c¹. Antennae slender or moderately serrate; prothoracic margins notched at or behind middle: species Telephoriform, Lampyriform, or Lyciform *Species 27-50.*
- d¹. Antennae broader and more tapering, strongly serrate: species Lyciform.
- a². Prothoracic margins notched at middle or at some distance before the base *Species 51-55.*

* Except in species 6, 13, 19, 21, 54, 55, 57, 60, the females only of which are known to me.

- b*². Prothoracic margins compressed at middle and notched in front of the hind angles *Species* 56-58.
- III. Anterior and intermediate tarsi with one of the claws broadly lobed at base, and the posterior tarsi with one claw cleft; prothoracic margins notched at or behind middle: species large, Lampyri-form or Telephoriform *Species* 59-64.

SECTION I.

1. *Discodon erosum*.

Discodon erosum, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 79 (♂ ♀) (excl. the var. from Cuernavaca, ♂) (*nec* p. 285).

Elongate, shining, finely pubescent; black, the head (eyes excepted), the base of the mandibles, the prothorax, scutellum, coxae, and trochanters, and the femora to near the apex, flavous or flavo-testaceous. Eyes moderately large and prominent in ♂, smaller in ♀. Antennae very long, filiform. Prothorax transverse, bicallose on the disc behind, with strongly reflexed, sinuate margins; the latter with an oblique notch near the base in ♂, and an abrupt arcuate emargination at the basal third in ♀. Elytra very long, subparallel, wider than the prothorax. Inner claw of anterior tarsi cleft at tip and broadly, acutely triangularly dilated at base, and the outer claw of the other tarsi deeply cleft, in ♂.

♂. Eighth ventral segment broad, short, produced on each side at the apex into a long, oblique, inwardly-directed, stout, spiniform process, the tips of the two processes nearly meeting (fig. 3); [ninth segment injured by dissection] the evaginated internal sac disclosing numerous spines and a pair of stout, elongate hooks (fig. 3a), two other long, stout hooks remaining within the cavity.

Hab. MEXICO, Toxpam and Cordova in Vera Cruz.

Redescribed from the pair from Vera Cruz named by Gorham, who did not observe the double modification of the inner anterior tarsal claw, etc., of the male. *D. erosum* must be taken as the type of *Discodon*, one claw of each tarsus being cleft in ♂; but the fissure of the claw of the anterior pair is not easily seen till the tarsus is removed. The so-called variety from Cuernavaca is a very different insect.

2. *Discodon incisum*.

Discodon incisum, Gorb., Biol. Centr.-Am., Coleopt. iii, 2, p. 79.

Elongate, narrow, shining, finely pubescent; testaceous, the eyes, antennae, legs (the base or greater part of the femora, and sometimes the tibiae also, excepted), and in one specimen (from Cerro Zunil) the suture and outer limb in part, black or piceous. Antennae very long, subfiliform. Eyes large and prominent in ♂, smaller in ♀. Prothorax transverse, with explanate strongly reflexed margins, bicallose on disc behind; in ♂ (type) deeply angularly notched at the sides at about the basal third and slightly hollowed thence to the prominent hind angles (in immature examples with the sides abruptly arcuato-emarginate from about the middle and the hind angles, in consequence, more acute); in ♀ broader, narrowing from about the basal third, and with the margins trisinate. Elytra very elongate, wider than the prothorax, subparallel. Inner claw of anterior tarsi triangularly dilated at base and cleft at tip, and outer claw of the other tarsi cleft at tip, in ♂. Last dorsal segment (= pygidial plate of Gorham) of ♂ greatly developed, extending beyond the comparatively short cleft seventh ventral segment.

♂. Eighth ventral segment very short, broad, broadly subtruncate at the apex, two stout hooks visible within the internal sac [ninth segment not examined].

Hab. GUATEMALA.

Amongst the six males of this species before me, one only (the type, from San Gerónimo) has the sides of the prothorax definitely notched, the notch in the others (which are all more or less immature) being lost in the broad arcuate emargination of the lateral margin. It is just possible, therefore, that there are two species still confused under *D. incisum*. The form of the tarsal claws was not mentioned in the original description, a character separating the present species from *D. nigripes*. *D. abdominale*, Schacff., from Nogales, Arizona, is said to be an allied form.

3. *Discodon marginatum*. (Plate VIII, fig. 51, prothorax, ♂.)

Discodon marginatum, Gorb., Biol. Centr.-Am., Coleopt. iii, 2, p. 80 (*nec* p. 286).

Elongate, rather shining, finely pubescent; testaceous, the eyes black, the head with a spot on the vertex, the antennae (the base

excepted), the prothorax with a median vitta, and the elytra (the sutural and outer margins excepted) fuscous. Eyes large and prominent in ♂, smaller in ♀. Antennae long and slender. Prothorax (♂) narrow, a little broader than long, binodose on the disc before the base, deeply and abruptly sinuato-emarginate from about the middle to the sharp hind angles, and with a shallow oblique groove above at the point of interruption of the lateral margin; (♀) broader and more transverse, narrowing from near the base, the margins reflexed throughout, sinuate at the middle and near the hind angles. Elytra long, considerably wider than the prothorax, subparallel, distinctly costate on the disc. Inner claw of anterior tarsi cleft and with a sharp triangular tooth at base, and outer claw of the other tarsi cleft, in ♂.

♂. Ninth ventral segment broad, widened outwards, the apex angularly dilated on each side and produced in the middle into a broadly rounded, decumbent flap.

Hab. GUATEMALA, Pacific slope and Baja Vera Paz.

Twelve specimens seen, of which five are males, varying very little in colour. The Mexican examples subsequently referred to this species by Gorham have differently formed tarsal claws in the male, and they are here separated under the name *Polemius fuscovittatus*. The fissure of the inner anterior claw is not easily seen in the present species: *D. marginatum* is related to *D. erosum*, *incisum*, and *emarginatum*.

4. *Discodon emarginatum*, n. sp.

Narrow, piceous or black, the anterior portion of the head in part or entirely, the base of the mandibles, and the prothorax (a median vitta excepted) pale flavous. Antennae (♂) long, subfiliform, sparsely pilose; (♀) shorter. Eyes large and prominent in ♂, much smaller in ♀. Prothorax (♂) broader than long, arcuate in front, the sides abruptly constricted at the middle and gradually obliquely dilated thence to the acute hind angles; (♀) wider, narrowing forwards, the sides sinuate and rather broadly explanate. Elytra long, wider than the prothorax in both sexes, subparallel, sinuate at the sides in ♀. Inner claw of anterior tarsi cleft at tip and with a triangular tooth at base, and outer claw of the other tarsi cleft at tip, in ♂.

♂. Eighth ventral segment short, broad, broadly subtruncate at the apex; ninth segment widened towards the tip, which is obliquely subtruncate on either side of the middle, two strongly curved hooks

projecting from the internal sac on each side and the tip of a serrated flagellum visible in the centre (figs. 4, 4a).

Length (excl. head) 7-9 $\frac{3}{4}$, breadth 2 $\frac{1}{4}$ -3 mm. (σ φ .)

Hab. MEXICO (*Truqui*: σ φ), Xucumanatlan in Guerrero (*H. H. Smith*: σ), Oaxaca (*Sallé*: σ).

Three males and one female. The Oaxaca example was found in the "Biologia" collection placed under the long series of *D. plicatum*. In the male of this insect the marginal notch of the prothorax is replaced by a deep arcuate emargination extending from the middle to the base (the hind angles thus appearing acute and prominent), and the inner claw of the anterior tarsi is cleft at the tip as in *D. erosum*. The genital armature, so far as visible, is also different from that of *D. plicatum*. *D. incisum*, Gorh., is an allied form. *D. bipunctatum*, Schaeff., from Arizona, seems to have a similarly shaped prothorax in the male.

5. *Discodon carbonarium*.

Discodon carbonarium, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, pp. 80, 285.

Very elongate, narrow, shining, finely pubescent; nigro-piceous or black, the anterior portion of the head in part, the base of the mandibles, and sometimes the prothorax (an oblong spot or median vitta excepted) also, testaceous or rufescent. Eyes very large and prominent in σ , much smaller in φ . Antennae slender, as long as the body in σ , shorter in φ . Prothorax (σ) narrow, nearly as long as broad, abruptly sinuato-emarginate from about the middle to the prominent hind angles, binodose on the disc behind, the broad space between the callosities flattened and often carinate; (φ) broader and more transverse, narrowing from near the base, the margins narrowly reflexed and bisinuate. Elytra very elongate, wider than the prothorax, subparallel. Inner claw of anterior tarsi cleft and with a sharp triangular tooth at the base, and outer claw of the other tarsi cleft, in σ .

σ . Ninth ventral segment broad, widened outwards, angularly dilated on each side at the apex and with the central portion broadly, subangularly produced.

Hab. GUATEMALA, Quiché Mts. and Cerro Zunil.

Seven specimens seen, three having the prothorax in part or almost wholly red. The male has the prothorax and tarsal claws formed very much as in *D. marginatum*

and *D. emarginatum*. *D. incisum* and *D. oppositipunctum* are also allied forms.

6. *Discodon melanopterum*, n. sp.

♀. Very elongate, narrow, shining, finely pubescent; deep black, the prothorax and mandibles rufo-testaceous. Antennae slender, about reaching the middle of the elytra. Prothorax narrow, broader than long, bicarinate on the disc, arcuate in front, narrowing from about the basal third forwards, the margins reflexed and bisinuate, the hind angles projecting laterally, the surface comparatively smooth. Elytra much wider than the prothorax, very elongate, parallel; densely, rugulose punctate and obsolete costulate.

Var. *α*. Head, prothorax, scutellum, and anterior coxae rufo-testaceous. ♀.

Length (excl. head) 7-8½, breadth 2 $\frac{1}{10}$ -2½ mm. (♀.)

Hab. MEXICO, Omilteme [types] and Chilpancingo [var.] in Guerrero 4600-8000 ft. (*H. H. Smith*).

Four females, the variety represented by a single example from Chilpancingo. This species is closely related to *D. carbonarium*, Gorb., from the Quiché Mountains, etc. of Guatemala. The prothorax of the female of that insect is similarly shaped, but more transverse, not so smooth, and more or less infuscate. The variety is very like *Silis haematodes*, Gorb. (♀), from Guatemala; but it has the sides of the prothorax much less sinuate. The male of the present species, if correctly placed near *D. carbonarium*, should have one of the claws of each tarsus cleft at the tip.

7. *Discodon oppositipunctum*.

Discodon oppositipunctum, Gorb., Biol. Centr.-Am., Coleopt. iii, 2, p. 87; Pic, Mélanges exot.-entom., fasc. ii, p. 14 (1912).

Discodon schneideri, Pic, Le Naturaliste, 1910, p. 43.

Narrow, rather shining, finely pubescent; testaceous, the antennae in part or entirely, a small spot on the vertex, another on the front of the prothorax, the elytra entirely, and the knees, tibiae, and tarsi, fuscous or nigro-fuscous. Eyes large and prominent in ♂, smaller in ♀. Antennae long and slender. Prothorax (♂) nearly as long as broad, binodose on the disc behind, deeply sinuato-emarginate at the sides from about the middle to the acute, laterally prominent hind angles; (♀) transversely subquadrate, the margins feebly

trisinuate. Elytra broader than the prothorax, parallel, distinctly costate. Inner claw of anterior tarsi cleft at tip and triangularly dilated at base, and outer claws of the other tarsi cleft, in ♂.

Hab. MEXICO, Cordova, Toxpan and Jalapa in Vera Cruz, Durango.

Redescribed from the immature fragmentary types (♂♀), and from a female from Durango from the Fry collection. Pic's specimens of *D. schneideri* were from Jalapa. The present species is allied to *D. marginatum* and *D. incisum*, having similarly formed tarsal claws, etc., in the male.

8. *Discodon geniculatum*, n. sp.

♂. Moderately elongate, narrow, shining, finely pubescent; the head, palpi, base of antennae, prothorax, scutellum, femora and tibiae (except at their respective apices) testaceous; the elytra and under surface fuscous, the sutural and outer margins of the former and the outer margins of the latter whitish. Head dull, densely, finely punctate; eyes rather small, prominent; antennae slender, about reaching the middle of the elytra. Prothorax slightly broader than long, subquadrate, the margins narrowly reflexed, plicate and interrupted at the middle by a long angular excision (appearing angularly dilated anteriorly), the hind angles inconspicuous. Elytra rather long, parallel, finely sculptured. Inner claw of anterior tarsi cleft at tip and with a sharp angular tooth at base, the outer claw of the other tarsi cleft at tip.

Length (excl. head) 4, breadth $1\frac{1}{8}$ mm.

Hab. MEXICO, Chilpancingo in Guerrero (*Höge*).

One male. This species is not very closely related to any of the others here enumerated. It has one of the tarsal claws of each foot distinctly cleft at the tip, as in the male of *D. coarctatum*, *simplex*, *melanaspis*, etc. The pallid head, prothorax, femora (the knees excepted), and tibiae, however, separate *D. geniculatum* from *D. melanaspis* and its allies, and the comparatively smooth, differently coloured elytra, etc., from *D. coarctatum*.

9. *Discodon cinereum*.

Discodon cinereum, Gorb., Biol. Centr.-Am., Coleopt. iii, 2, p. 286 (part.); Pic, Mélanges exot.-entom., fasc. ii, p. 15 (1912).

Moderately elongate, narrow (♂), broader (♀), somewhat shining, thickly clothed with rather coarse cinereous pubescence; black, the head on each side in front, and the sides of the prothorax broadly (leaving a large, anteriorly dilated, broad black median vitta), or at least narrowly at the base, flavous or rufescent. Eyes small. Antennae subfiliform, rather stout, shorter in ♀, sparsely pilose. Prothorax (♂) subquadrate, binodose on the disc towards the base, the sides deeply, angularly emarginate at about the middle, the hind angles prominent; (♀) broader, strongly transverse, the sides trisinate, the hind angles acute and still more prominent. Elytra moderately long, wider than the prothorax, parallel, rugosely sculptured. Inner claw of anterior tarsi cleft at the tip and with a large triangular tooth at base, and the outer claw of the other tarsi cleft, in ♂.

Length (excl. head) $4\frac{1}{2}$ -6, breadth $1\frac{1}{2}$ -2 mm. (♂ ♀.)

Hab. GUATEMALA, Calderas on the slope of the Volcan de Fuego, Quiché Mts., San Gerónimo.

Gorham confused two perfectly distinct species under *D. cinereum*, but the localities quoted and the specific name adopted could only apply to the present insect, the other, from the Quiché Mts. only, *D. nigropilosum*, having black pubescence, very long, dilated, subserrate, bristly antennae in the male, etc. The colour of the prothorax varies according to the development of the black median vitta, this latter being sometimes so extended as to leave a small space at the hind angles only flavous. Fourteen specimens seen, three of which were found placed under *Silis dilacerata* in the "Biologia" collection.

10. *Discodon tenue*.

Discodon tenue, Gorb., Biol. Centr.-Am., Coleopt. iii, 2, p. 286.

Narrow, slender, shining, cinereo-pubescent; nigro-piceous or black, the anterior portion of the head, the base of the antennae, the prothoracic margins (a space beyond the middle of the lateral margin in ♂ excepted), the coxae and trochanters, the basal half of the femora, and the abdomen in part, flavous or testaceous. Eyes small. Antennae slender, long. Prothorax transverse, binodose on the disc behind, abruptly constricted behind the middle in ♂, the lateral margins narrowly reflexed, the hind angles prominent; broader and with the margins strongly trisinate in ♀. Elytra long, a little wider than the prothorax, subparallel. Inner claw of anterior

tarsi cleft at tip and with a sharp triangular tooth at base, and outer claw of the other tarsi cleft at tip, in ♂.

♂. Ninth ventral segment small, oblong, subtruncate at the tip, a single spiniform process projecting from the internal sac.

Hab. GUATEMALA, Quiché Mts.

Three males and five females seen, showing no variation in colour. The structure of the ♂ anterior tarsal claws was not observed by Gorham, who gives the outer claw of the middle and hind tarsi only as cleft. A narrow, slender insect related to *D. carbonarium*, which came from the same locality; but much smaller, and also differing from it in the shape of the prothorax in both sexes, the small eyes of the male, etc. The Mexican *D. subtenue* is very like *D. tenue*.

11. *Discodon maurum*, n. sp. (Plate VIII, fig. 52, prothorax. ♂.)

Discodon melancholicum, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 81 (part.).

♂. Narrow, finely pubescent, somewhat shining, wholly deep black. Eyes somewhat prominent. Antennae very long, filiform. Prothorax small, transverse; the sides strongly reflexed, deeply sinuate and feebly obliquely notched at about the middle, and with an abrupt notch immediately before the dentiform hind angles (these being formed by the reflexed basal margin); the disc broadly sulcate down the middle behind, appearing bicallose. Elytra wider than the prothorax, very elongate, subparallel. Inner claw of anterior and outer claw of the other tarsi cleft at tip.

Length 8, breadth 3 mm.

Hab. MEXICO, Parada in Oaxaca (*Sallé*), Oaxaca (*Mus. Brit.*).

Two males—one included by Gorham under *D. melancholicum* (= *D. triste*), the other acquired by the British Museum in 1858. In the male of the present species one claw of each tarsus is cleft (not easily seen), the prothorax is small, with strongly upturned margins, and the sides abruptly notched immediately before the base, and the antennae are long and filiform, characters readily distinguishing *D. maurum* from *D. melancholicum*.

12. *Discodon nigropilosum*, n. sp.

Moderately elongate, shining, nigro-pilose; black, the sides of the prothorax narrowly (♂) or rather broadly (♀) flavous, the very

broad black median vitta sometimes extending along the anterior margin to the lateral notch in ♂. Eyes small. Antennae (♂) about as long as the body, dilated, subserrate, and densely clothed with short projecting hairs; (♀) much shorter and moderately stout, more sparsely pilose. Prothorax (♂) transverse, deeply, angularly, abruptly emarginate at the sides at about the middle (the lateral margins thus appearing dentate at the apical third), the hind angles subrectangular; (♀) shorter and more transverse, the sides somewhat rounded, narrowly reflexed, and feebly sinuate. Elytra wider than the prothorax, moderately long, slightly rounded at the sides in ♀, finely punctate and costulate. Inner claw of anterior tarsi, and outer claw of the other tarsi cleft at tip, in ♂.

♂. Eighth ventral segment narrowed to the apex, the apex itself cleft in the middle, appearing bilobed.

Length (excl. head) 5-5½, breadth 1½-2 mm. (♂ ♀.)

Hab. GUATEMALA, Quiché Mountains, 7000-9000 ft. (*Champion*).

Five males and two females. The black pubescence, the very long, stout, subserrate, densely pilose antennae of the male, the less parallel elytra, and the rounded, much less sinuate sides of the prothorax in the female, readily distinguish the present species from *D. cinereum*, under which the specimens described were left in the "Biologia" collection.

13. *Discodon comptum*.

♀. *Telephorus comptus*, Gorb., Biol. Centr.-Am., Coleopt. iii, 2, p. 90.

Hab. GUATEMALA, San Gerónimo in Baja Vera Paz.

Described from two females. *T. comptus*, in the absence of the male, is best placed near *Discodon nigropilosum*, also from Guatemala, it having a feebly developed head, small eyes, long, serrate antennae, and rugose elytra, much as in the female of that species; the prothorax, however, in *T. comptus* is wider than the base of the elytra, and strongly rounded and broadly explanate at the sides from near the acute hind angles. The species obviously bears no relationship to the genus *Telephorus*, s. str.

14. *Discodon sinuatum*, n. sp.

Moderately elongate, rather narrow (♂), broader (♀), opaque, finely pubescent; nigro-piceous or black, the prothorax sometimes

with two transversely placed reddish spots on the disc; the mandibles rufescent. Head short; eyes rather small; antennae (δ) long, slightly tapering outwards, densely set with short projecting hairs; (φ) shorter and more sparsely pilose. Prothorax (δ) transverse, densely punctulate, bicallose on the disc towards the base, the margins broadly, deeply, angularly excised behind the middle, the hind angles subrectangular; (φ) broader, with the margins simply sinuate, uninterrupted, and somewhat thickened. Elytra wider than the prothorax, subparallel in δ , broader and distinctly explanate in φ ; densely, rugulosely sculptured, costulate in δ . Inner claw of anterior tarsi angularly dilated at base and cleft at tip, and outer claw of the other tarsi cleft at tip, in δ .

Var. *a*. Prothorax with a sharply defined oblique yellow streak on each side of the disc. δ φ .

δ . Last dorsal segment simple; seventh ventral segment narrowly cleft throughout; eighth segment broad, transverse, notched in the middle and sinuato-truncate at the apex (fig. 5); ninth segment oblong, subtruncate at the tip, a stout hook visible on each side of it beneath and two minute hooks projecting from the internal sac.

Length (excl. head) $4\frac{1}{2}$ - $5\frac{1}{2}$, breadth $1\frac{1}{2}$ - $2\frac{1}{2}$ mm. (δ φ .)

Hab. MEXICO (*Truqui* in *Mus. Brit.*; *Coffin* in *Mus. Oxon.*), Tula in Hidalgo (*Höge*).

Numerous examples of both sexes of the dark form, three only of the variety. Very like *D. (Silis) anale*, Gorb., but broader and less shining; the antennae of the male more densely pilose and the pygidium (or last dorsal segment) simple in this sex; the hind angles of the prothorax of the female not projecting laterally. The δ characters of the present insect are very similar to those of *D. nigropilosum*. The sexes might be mistaken for different species. Two males have been dissected.

15. *Discodon subtenuis*, n. sp. (Plate III, fig. 1, δ .)

Narrow, slender, shining, cinereo-pubescent; black, the anterior portion of the head, the base of the antennae, the prothorax (a broad median vitta or spot excepted), the coxae and trochanters, the basal half of the femora, the tibiae in part, and the margins or more of the abdomen, flavous or testaceous; the elytra (except in one φ example) each with an oblique discoidal stripe of variable extent (sometimes leaving only the suture and base black), and often the outer limb also, dilute testaceous; the antennae, tibiae, and tarsi (and in one immature example the anterior and intermediate femora also) rarely testaceous, the femora black in one specimen. Eyes small, prominent

in ♂. Antennae slender. Prothorax (♂) a little broader than long, binodose on the disc behind, abruptly, angularly constricted just beyond the middle and with the sides subparallel thence to the prominent hind angles; (♀) more transverse, and with the sides bi- or trisinate. Elytra long, a little wider than the prothorax, subparallel. Inner claw of anterior tarsi, and outer claw of the other tarsi, cleft in ♂.

♂. Ninth ventral segment somewhat oval, a single spiniform process projecting from the middle of the internal sac.

Length (excl. head) 5-6½, breadth 1½-2 mm. (♂ ♀).

Hab. MEXICO, Chilpancingo and Omilteme in Guerrero, 4600-8000 ft. (*H. H. Smith*).

Thirteen specimens, females predominating, varying in colour, according to the development of the oblique flavous stripe on each elytron. Very like the Guatemalan *D. tenue*, but with the sides of the prothorax broadly testaceous, and the lateral notch of the ♂ placed further forward and so abrupt as to form a dentiform prominence in front; the inner anterior tarsal claw (♂) also wants the sharp triangular tooth at the base. The single specimen (♀) with the femora and elytra black superficially resembles *D. carbonarium*.

16. *Discodon anale*. (Plate VIII, fig. 53, prothorax, ♂.)

Silis analis, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 304.

Elongate, narrow, somewhat shining, finely cinereo-pubescent; nigro-piceous or black, the anterior margin of the head, the base of the mandibles, and the last abdominal segment in ♂, flavous. Head short, the eyes small; antennae long, sparsely pilose, and with a stout basal joint, in ♂, slightly shorter in ♀. Prothorax (♂) transverse, bicallose on the disc posteriorly, deeply, angularly excised on each side behind the middle, the margins obliquely diverging thence to the rather prominent hind angles, thickened and reflexed in front of the emargination, and gradually converging thence to the apex; (♀) somewhat rounded and feebly sinuate at the sides, and constricted before the sharp outwardly-directed hind angles, the margins reflexed throughout, sometimes subangulate at about the apical third. Elytra long, subparallel. Inner claw of anterior tarsi, and outer claw of the other tarsi, perceptibly cleft at tip, in ♂.

♂. Last dorsal segment (= pygidium of Gorham) stout, long, tubulate, bent downward at the apex; seventh ventral segment long, broadly cleft down the middle, the lateral portions forming

two long narrow lobes; [eighth segment not examined;] ninth ventral segment widened outwards, sinuato-truncate at the tip.

Length (excl. head) $4\frac{1}{2}$ - $5\frac{1}{4}$, breadth $1\frac{1}{2}$ mm. (σ ♀.)

Hab. MEXICO (*Truqui* in *Mus. Brit.*; *Coffin*, in *Mus. Oxon.*), Puebla (*Sallé*: types), Chilpancingo in Guerrero (*Höge*).

A long series of this species is now available for examination, including a pair still "in copula." Various other extremely closely allied Mexican forms are known, and a fuller description is therefore required, *D. anale* being recognisable by the peculiarly shaped last dorsal segment (pygidium) of the male. Gorham seems to have overlooked the close affinity of the present insect with his *Discodon cinereum*, under which, however, he confused various species.

17. *Discodon alticola*, n. sp.

Elongate, narrow, shining, finely cinereo-pubescent; nigropiceous or black, the sides of the head in front and the base of the mandibles testaceous. Head together with the eyes as wide as the prothorax in σ , narrower in ♀; eyes rather large and prominent in σ , smaller in ♀; antennae (σ) long, reaching to about the apical third of the elytra, much shorter in ♀. Prothorax (σ) slightly broader than long, bicallose on the disc posteriorly, deeply, angularly excised on each side at about the middle, the margins obliquely diverging thence to the sharp hind angles, narrowly reflexed in front of the excision, and gradually converging thence to the apex; (♀) broader, strongly transverse, with the margins thickened and reflexed to near the base and apex, obliquely converging anteriorly and subparallel or converging behind, the hind angles rather prominent. Elytra long, parallel. Inner claw of anterior tarsi, and outer claw of the other tarsi, apparently cleft at tip, in σ .

σ . Eighth ventral segment (apex only examined) carinate down the middle, the apex narrow, feebly emarginate.

Length (excl. head) 5- $5\frac{1}{2}$, breadth $1\frac{1}{2}$ -2 mm. (σ ♀.)

Hab. MEXICO, Ciudad in Durango 8100 ft. (*Forrer*, *Höge*).

Three specimens. The two females captured by Forrer were found placed under *Discodon cinereum* and *carbonarium* respectively in the "Biologia" collection; the male was taken many years later by Höge at the same locality. The male approaches *D. carbonarium*, from Quiché, the dentiform lateral projection of the prothorax being much more

narrowly reflexed than in *D. anale*; the female, however, is extremely like the same sex of the last-named insect. The tarsal claws of the male appear to be simple, but in certain aspects one of them seems to be feebly cleft at the tip. In one of the females the prothorax is distinctly carinate between the dorsal callosities. *D. simplex* has duller elytra and shorter antennae.

18. *Discodon simplex*, n. sp.

Moderately elongate, narrow, somewhat shining, finely cinereo-pubescent; nigro-piceous or black, the anterior margin of the head (at the sides only in ♀), the bases of the palpi and mandibles, and the tip of the last ventral segment in ♂, testaceous. Head short, the eyes small; antennae moderately long, rather slender, subequal in length in the two sexes, the basal joint not much thickened in ♂. Prothorax (♂) transverse, bicallose on the disc posteriorly, gradually dilated from the apex to the deep, angular post-median excision, and again dilated thence to the subrectangular hind angles, the margins callose and reflexed in front of the excision (the tooth thus formed truncate behind); (♀) transversely subquadrate, the margins sinuate, armed with an oblique dentiform callosity at about the apical third, and obliquely converging thence to the apex, the hind angles acute and laterally projecting. Elytra moderately long, parallel, a little broader in ♀. Inner claw of anterior tarsi angularly dilated at base and cleft at tip, and outer claw of the other tarsi cleft at tip, in ♂.

Var. *α*. Prothorax with the sides broadly to near the apex, and the anterior legs in part, rufo-testaceous. ♀.

Var. *β*. Larger and more elongate; the entire anterior portion of the head, the palpi, the outer limb of the elytra, and the margins of the abdomen, testaceous. ♀.

♂. Seventh dorsal segment moderately long, simple, the eighth narrow and angularly excised at the tip; seventh ventral segment broadly cleft, the lateral portions bluntly rounded at the apex.

Length (excl. head) $3\frac{4}{5}$ – $5\frac{1}{2}$, breadth $1\frac{1}{2}$ – $1\frac{3}{4}$ mm. (♂ ♀.)

Hab. MEXICO, Xucumanatlan and Amula in Guerrero, 6000–7000 ft. (*H. H. Smith*).

Described from two males and six females, the varieties being each represented by a single example; all the forms were obtained at Amula. The non-tubulate, shorter last dorsal segment of the male separates the present species from *D. (Silis) anale*, Gorb., the female, too, has a some-

what differently shaped prothorax. The var. *a* approaches *D. cinereum*, Gorh.

19. *Discodon bicallosum*, n. sp.

♀. Moderately elongate, shining, finely pubescent; black, the sides of the head before the eyes, a sharply defined oval spot on the front, the base of the mandibles, the basal joint of the antennae beneath, and the margins of the prothorax posteriorly, pale flavous. Head short, the eyes small; antennae moderately long. Prothorax transversely subquadrate, bicallose on the disc, feebly sinuate at the sides, the latter armed with a stout, oblique, laterally projecting, dentiform callosity towards the apex, the hind angles sharply rectangular. Elytra moderately long, parallel, much wider than the prothorax, rugulose sculptured and subcostulate.

Length (excl. head) $4\frac{1}{2}$, breadth $1\frac{2}{3}$ mm.

Hab. GUATEMALA, San Gerónimo in Baja Vera Paz (*Champion*).

One specimen, placed in the "Biologia" collection under *D. cinereum*, a Guatemalan insect with a very differently shaped prothorax in the female. *D. bicallosum* is closely related to the Mexican *D. simplex*, from which it may be known by the peculiarly coloured head and prothorax, the latter with a stout, oblique, marginal callosity on each side towards the apex and sharply rectangular hind angles.

20. *Discodon coarctatum*.

Silis coarctata, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 303 (♂).

Silis hilara, var.?, Gorh., loc. cit. p. 306 (part.) (specim. with black legs) (♀).

Hab. MEXICO, Cordova.

Described from five males, four of which are now in the British Museum. This insect has the prothorax of the male shaped very much as in *D. (Silis) anale*, Gorh., from which it differs in the rufo-testaceous head, prothorax, and scutellum, the less thickened lateral prominences of the prothorax, and the simple seventh dorsal segment, of the male, etc. Two examples have the head infusate at the base. One of the two females placed by Gorham under *Silis hilara* must belong here; it is very like the same sex of the nearly allied *D. melanaspis*, but has shorter antennae, a red head, etc. The tarsi have one of their claws cleft at the tip in the male.

21. *Discodon erythroderes*.

♀. *Silis erythroderes*, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 94 [nec *S. erythrodera*, Fairm. 1893].

♀. *Silis jalapana*, Pic, L'Echange, xxvi, p. 6 (1910).

Hab. MEXICO, Jalapa.

A shining, sparsely pubescent insect, with a bright red head and prothorax, and black elytra, legs, and antennae. The prothorax (♀) is subquadrate, with the narrowly reflexed lateral margins interrupted at the middle by a broad arcuate emargination (thus appearing angulate before and behind the emargination) and the hind angles prominent. Four specimens are contained in the "Biologia" collection, two of them having the head more or less infusate at the base. *Silis jalapana* has the scutellum red, a character of no great importance. *D. erythroderes* resembles *Silis haematodes*, Gorh., in colour; but it has a very differently shaped prothorax, the latter being formed somewhat as in the male of *D. coarctatum*. The male of the present species remains to be discovered. The similarly coloured *Silis melanocephala*, Gorh., known from a single male, has a shorter prothorax, more roughly sculptured elytra, etc.

22. *Discodon melanaspis*, n. sp.

Moderately elongate, shining, finely and closely cinereo-pubescent; nigro-plumbeous or black, the base of the mandibles, the sides of the head in front, and the prothorax testaceous or rufo-testaceous. Eyes rather small in ♂, still smaller in ♀. Antennae long and slender in both sexes. Prothorax (♂) subquadrate, bicallose on the disc posteriorly, the margins narrowly reflexed, notched and obliquely plicate at the middle (appearing broadly subangularly dilated in front of the excision), the hind angles obtuse; (♀) broader and more transverse, the lateral margins wider, thickened throughout, feebly sinuate, constricted before the sharp hind angles, and sometimes feebly angulate towards the apex. Elytra parallel, long and broader than the prothorax in ♂, shorter in ♀, finely sculptured. Inner claw of anterior tarsi, and outer claw of the other tarsi, distinctly cleft at tip, in ♂.

Length (excl. head) $4\frac{1}{2}$ - $5\frac{1}{2}$, breadth $1\frac{1}{3}$ - $1\frac{1}{2}$ mm. (♂ ♀.)

Hab. MEXICO (*Truqui*, in *Mus. Brit.*: ♂ ♀; *Mus. Oxon.*: ♀), Chilpancingo (*H. H. Smith*: ♀).

This is a form of *D. coarctatum* with the head (except at the sides in front) and scutellum black, and the elytra

rather finely sculptured and comparatively smooth. The description is taken from fourteen examples (three of which belong to the Oxford Museum), including a pair still "in copula." A larger female, also found by Truqui, with a broader, narrowly fusco-vittate prothorax may belong here. The fine cinereous pubescence of the elytra gives a greyish appearance to the surface.

23. *Discodon hilarum*. (Plate VIII, fig. 54, prothorax, ♂.)

Silis hilara, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 306 (part.) (♂ and ♀ with legs in part red).

Hab. MEXICO, Cordova.

The types of *Silis hilara*, ♂ ♀, are very like *D. (Silis) coarctatum*; but the male has broader and more thickened lateral prominences, and acute hind angles, to the prothorax, and smaller eyes than in the corresponding sex of that species; the femora to near the apex, and the basal half or more of the tibiae, are testaceous; and the elytral punctuation is as coarse and distinct as in *D. pauxillum*, the cinereous pubescence, too, being long and conspicuous. The black-legged specimen (♀) placed by Gorham under the same species is here referred to *D. coarctatum*. The three tarsi have one of their claws cleft at the tip in the male.

24. *Discodon pauxillum*. (Plate VIII, fig. 55, prothorax, ♂.)

Silis pauxilla (incl. vars.), Gorh., Biol. Centr.-Am., Coleopt. iii, 2, pp. 304, 305 (excl. Zunil specimens).

Hab. GUATEMALA, Cubilguitz, Senahu, and San Juan in Alta Vera Paz; PANAMA, Volcan de Chiriqui.

The types of *Silis pauxilla*, Gorham, were from Chiriqui, and the Guatemalan examples [excluding those from Cerro Zunil, which are females with bent mandibles and are here treated as a var. of his *Silis oblita*] evidently belong to the same species. One of the varieties, that with the basal half of the femora testaceous, represented by two females, is from Vera Paz; the other, with the head (the base or a spot on the vertex excepted), the basal half or more of the antennae, and the legs in great part (the outer half of the posterior femora excepted), testaceous, is represented by numerous females from Chiriqui. The type is shining, black, with the front of the head, the base of the antennae beneath, and the prothorax (except along the anterior

margin) rufo-testaceous. The prothorax of the male is broad and transverse, and dilated at the sides into a broad, thickened, blunt tooth in front of the deep median notch; that of the female has the lateral margins feebly sinuate, and angularly dilated anteriorly, and the hind angles acute. The elytra are parallel and rather coarsely, densely punctate. The three tarsi have one of the claws cleft at the tip in the male. The second antennal joint is a little longer than usual. The eyes are small, slightly larger in the male.

25. *Discodon minusculum*.

Silis minuscula, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 305.

Hab. GUATEMALA, Pacific slope.

This is a form of *D. pauxillum* with a sharply and broadly nigro-vittate prothorax, the front of the head whitish, and the basal half of the femora testaceous. The male characters are similar, and the second antennal joint is rather long. *D. minusculum* comes very near the var. 1 of *D. pauxillum*, from the Atlantic slope; but as the insect seems confined to the opposite side of Guatemala, it is here retained as distinct. *D. minusculum* is represented by three males and five females in the "Biologia" collection.

SECTION II.

26. *Discodon podabroides*.

Discodon podabroides, Pic, Melanges exot.-entom., fasc. ii, p. 15 (♂) (1912).

Elongate, narrow (♂), broader (♀), rather shining, finely cinereo-pubescent; nigro-piceous or black, the sides of the head in front, the base of the mandibles, the margins of the prothorax narrowly (except at the middle), the outer limb of the elytra below the shoulder, the outer margins of the abdomen, and the tarsal claws testaceous or yellow. Head in ♂ broad, subtriangular, exserted, and with large, very prominent eyes, in ♀ less developed and with much smaller eyes; antennae slender, very long in ♂, shorter in ♀. Prothorax (♂) nearly as long as broad, bicallose on the disc towards the base, notched at the sides behind the middle, the notch limited in front by an obtuse oblong callosity, the hind angles acute and prominent; (♀) shorter and more transverse, narrowly excised

behind the dark marginal callosity, the sides obliquely converging anteriorly. Elytra considerably wider than the prothorax, long, subparallel. Inner claw of anterior tarsi lobed, and outer claw of the other tarsi cleft at tip, in ♂.

♂. Ventral segment 6 very broadly, subtriangularly emarginate; 7 drawn out laterally into a pair of long, stout, curved forceps, the acuminate apices of which overlap; 8 short, polished, glabrous, tridentate at the apex (the compressed cariniform median portion forming a prominent tooth between the two apical notches) (fig. 6); 9 narrow, produced into a long, spoon-shaped lobe on each side, the exposed median process (flagellum) finely serrate laterally and the tip of a sharp spine visible on each side of it (figs. 6a, 6b).

Length (excl. head) 5½–6, breadth 1½–2 mm. (♂ ♀.)

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

Redescribed from two males and two females. Pic's type (♂), from the same source, was found by him in the Gorham collection placed under *Discodon cinereum*. The male of this insect is superficially very like a small *Podabrus*, which has differently formed tarsal claws, etc. The extraordinary ventral structure of the male was not noticed by Pic. The forcipate ventral segment is assumed to be the seventh (the first being hidden beneath the coxae) and homologous with the normally cleft last exposed segment. *D. podabroides* should perhaps be taken as the type of a separate genus.

27. *Discodon plicatum*.

Discodon plicatum, Gorb., Biol. Centr.-Am., Coleopt. iii, 2, pp. 79, 285 (part.).

Narrow (♂), broader (♀), elongate, moderately shining; clothed with rather long brownish or cinereous pubescence; nigro-piceous or black, the head on each side in front, the base of the mandibles, and the prothorax (a median vitta, oblong patch, or small spot on the disc excepted) straw-yellow, the humeri usually, and sometimes the scutellum also, testaceous. Eyes large and prominent (♂), smaller (♀). Antennae slender, long, sparsely pilose in both sexes. Prothorax (♂) transverse, rounded in front, deeply excavate on each side of the disc, anteriorly, the sides abruptly, angularly notched at the middle, the hind angles rectangular; in ♀ broader, with the sides simply sinuate and the hind angles obtuse. Elytra long, a little wider at the base than the prothorax in both sexes, not explanate laterally, feebly costulate on the disc. Inner claw of anterior

tarsi broadly lobed, and outer claw of the other tarsi cleft at the tip, in ♂.

Var. *α*. Prothorax, epistoma, and scutellum straw-yellow.

Discodon flavicolle, Gorh., loc. cit., pp. 81, 287 (excl. Panama specimens).

♂. Eighth ventral segment oval, rather broad, feebly notched in the centre at the tip; ninth segment somewhat broadly produced and subtruncate at the apex, two curved hooks projecting from the internal sac (fig. 7).

Hab. MEXICO, Nuevo Leon, Vera Cruz, Oaxaca, Mexico City, etc.; GUATEMALA; COSTA RICA.

A variable insect, recognisable amongst its allies by the position of the prothoracic notch of the male, and from *D. normale*, etc., by the form of the tarsal claws of the same sex. In the long series examined the black mark on the disc of the prothorax (which is never dilated into a cruciform patch posteriorly) becomes gradually evanescent, till it entirely disappears. The length (excluding head) varies from 8–11 mm. Five males have been dissected, three of *D. plicatum* and two of *D. flavicolle*.

28. *Discodon stramineicolle*, n. sp.

Discodon flavicolle, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 287 (part.).

Elongate, shining, sparsely pubescent; black or pitchy-black, the anterior half of the head, the base of the mandibles, the anterior coxae, prothorax, and scutellum pale flavous. Eyes very large in ♂, smaller in ♀. Antennae long, filiform, sparsely pilose. Prothorax transverse, arcuate in front; the lateral margins abruptly, obliquely notched at about the basal third (a dentiform projection being thus formed in front of the emargination) in ♂, and feebly sinuate in ♀; the entire basal margin strongly reflexed; the hind angles rectangular in ♂, obtuse in ♀. Elytra very long, broader at the base than the prothorax, and gradually widening from the base, faintly costulate on the disc, the margins not explanate. Inner claw of anterior tarsi broadly lobed, and outer claw of the other tarsi deeply cleft (the outer portion of the claw shorter than the inner), in ♂.

♂. Eighth ventral segment narrowly arcuato-emarginate in the middle and upturned at the apex, and produced into a dentiform projection on each side of the emargination (fig. 8); ninth segment broad, lobed towards the sides posteriorly, a stout, oblique, com-

pressed hook projecting on each side at the apex from beneath the prominent outer apical portions of the segment (fig. 8a).

Length (excl. head) 10–11½, breadth 3¼–4½ mm. (♂ ♀.)

Hab. PANAMA, Volcan de Chiriqui, Bugaba.

Two males and five females. Gorham correctly surmised that the Panama examples referred by him in his "Supplement" to *D. flavicolle* (= *plicatum*, var.), were not conspecific with those from Mexico. In the Chiriqui insect the oblique lateral notch of the prothorax is placed nearer the base, and the outer claw of the middle and posterior tarsi is more deeply cleft (the two portions differing considerably in length), in the male, the basal margin of the prothorax is more reflexed, the elytra are more shining, etc.

29. *Discodon fuscipenne*, n. sp.

♂. Elongate, somewhat shining, clothed with rather long pubescence; nigro-piceous, the legs paler (due to immaturity), the points of insertion of the antennae, the base of the mandibles, the prothorax, and the anterior and middle coxae straw-yellow. Antennae long, slender, sparsely pilose. Eyes large, prominent. Prothorax transverse, arcuate in front, the sides subparallel behind, and with a narrow, oblique notch at about the basal fifth. Elytra long, subparallel, wider than the prothorax. Inner claw of anterior tarsi broadly lobed, and outer claw of the other tarsi cleft at tip, in ♂.

Ninth ventral segment narrow, a stout curved hook projecting from the internal sac on each side and a central process also visible (fig. 9).

Length (excl. head) 8½, breadth 3 mm.

Hab. GUATEMALA, Cerro Zunil, Pacific slope (*Champion*).

One male, included by Gorham under the series of *D. plicatum*, an insect also occurring at Cerro Zunil. The juxta-basal position of the prothoracic notch in the male readily separates *D. fuscipenne* from the same sex of *D. plicatum*, var. *flavicolle*; and the parallel-sided prothorax, with narrow notch near the base, distinguishes it from the southern *D. stramineicolle*, ♂. The prothorax is small and the elytra are very elongate, as in the last-named insect.

30. *Discodon planicolle*.

Polemius planicollis, Lec., Journ. Acad. Phil., iv, p. 17 (1858); Trans. Am. Ent. Soc. ix, p. 55 (nec *T. planicollis*, Kies.).

Discodon planicolle, Schaeff., Journ. N. York Ent. Soc., xvi, p. 61.

Telephorus platyderus, Gemm., Col. Hefte, vi, p. 120 (1870).

Discodon vitticolle, var. ?, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 286.

Narrow (♂), broader (♀), moderately elongate, rather shining, fusco-pubescent, nigro-piceous or black, the head on each side in front, the base of the mandibles, and the prothorax (a broad median vitta excepted), testaceous or straw-yellow, the humeri usually (to a greater or less extent), and sometimes the knees also, testaceous or flavous. Antennae long, slender, and densely pilose in ♂, shorter and sparsely pilose in ♀. Eyes rather large in ♂, smaller in ♀. Prothorax (♂) transverse, the sides notched at the middle, the hind angles rectangular; in ♀ broader, with the sides simply sinuate and the hind angles obtuse. Elytra moderately long, a little wider than the prothorax. Inner claw of anterior tarsi broadly lobed, and outer claw of the other tarsi cleft at tip, in ♂.

♂. Eighth ventral segment oval, carinate; a pair of stout hooks projecting from the internal sac.

Length (excl. head) $6\frac{1}{2}$ – $7\frac{3}{4}$, breadth $2\frac{1}{4}$ – $3\frac{1}{4}$ mm. (♂ ♀.)

Hab. NORTH AMERICA, New Mexico, Texas; MEXICO, Villa Lerdo in Durango, Monterey in Nuevo Leon (*Höge*), Monclova and Parras in Coahuila (*Dr. Palmer*).

This is one of the numerous forms allied to *D. plicatum*, Gorh., from which it is separable by its smaller size and less elongate shape (this being especially noticeable in the females), and by closely pilose antennae of the male. *D. filicorne*, from Durango, has similarly hirsute, but much longer, antennae in the same sex. Mr. Wickham has recently sent me a pair, and Mr. Fall a female, of the present species from Texas or New Mexico.

31. *Discodon filicorne*, n. sp.

Narrow (♂), broader (♀), dull, finely cinereo-pubescent; black, the anterior portion of the head wholly or in great part, the base of the mandibles, and the prothorax (a broad, anteriorly dilated median vitta excepted) flavous. Antennae (♂) slender, filiform, longer than the entire body, densely clothed with projecting hairs; (♀) much shorter and not so slender, sparsely pilose. Eyes moderately large and somewhat prominent in ♂, smaller in ♀. Prothorax transversely subquadrate and angularly notched at the sides a little behind the middle in ♂, broader, narrowing forwards, and with

the sides narrowly explanate and feebly sinuate in ♀. Elytra wider than the prothorax in both sexes, faintly costulate on the disc. Inner claw of anterior tarsi broadly lobed, and the outer claw of the other tarsi cleft at the tip, in ♂.

♂. Eighth ventral segment rapidly narrowed to the rounded apex, carinate down the middle; ninth segment (so far as visible) apparently shaped as in *D. plicatum*.

Length (excl. head) $7\frac{1}{4}$ – $7\frac{1}{2}$, breadth $2\frac{1}{2}$ –3 mm. (♂ ♀.)

Hab. MEXICO, Ventanas in Durango (*Höge*).

One pair. This insect is very closely allied to *D. plicatum*, which also occurs in Durango; but the extremely long, slender, densely pilose antennae, the much smaller eyes, and the narrow general shape of the male forbid any association with that species.

32. *Discodon inconstans*, n. sp.

Discodon dubium, Gorb., Biol. Centr.-Am., Coleopt. iii, 2, p. 85 (part.).

Elongate, rather narrow (♂), broader (♀), moderately shining, finely cinereo-pubescent, the prothorax with longer hairs; black, the head in front, the basal joint of the antennae in part or wholly, the base of the mandibles, the prothorax (a median vitta or spot excepted), and often the sutural and outer margins of the elytra, and the apex or outer margin of the abdomen, flavous, the disc of the prothorax in some specimens rufescent on either side of the median vitta. Eyes rather small in both sexes. Antennae rather stout, subserrate, tapering towards the tip, sparsely pilose, shorter in ♀. Prothorax transverse, as broad as, or broader than, the base of the elytra; the sides angularly notched at about the basal third in ♂, and explanate and deeply sinuato-emarginate at the same place in ♀, in fully developed specimens arcuato-ampliate before the middle. Elytra long, not explanate at the sides. Sixth ventral segment deeply triangularly emarginate at the apex in ♂, the seventh segment long, with the median fissure widening anteriorly. Inner claw of anterior tarsi broadly lobed, and the outer claw of the other tarsi cleft at tip, in ♂.

Var. *a.* Prothorax, and usually the scutellum, humeri, sutural and outer margins of the elytra, the femora at the base or entirely, and the tibiae in part, testaceous or flavous.

Discodon erosum, var., Gorb., loc. cit. p. 79 (♂).

♂. Eighth ventral segment raised at the apex and notched in the middle, the two portions appearing broadly, conjointly rounded,

the dorsal portion of the same segment truncate on each side of the median fissure (fig. 10, profile view); ninth segment subtrilobate at the tip, the pairs of long spines or hooks appearing longer or shorter according to the extent of evagination of the internal sac (fig. 10a.)

Length (excl. head) $8\frac{1}{2}$ –11, breadth $2\frac{1}{2}$ – $4\frac{1}{4}$ mm. (σ $\text{\textcircled{f}}$.)

Hab. MEXICO, Durango, Vera Cruz, Morelos, Guerrero, Oaxaca; GUATEMALA, San Gerónimo; COSTA RICA.

The numerous examples received from Durango and Guerrero connect the various forms of this insect. Specimens of it were found in the "Biologia" collection under *D. erosum*, *plicatum*, *normale*, and *dubium*. From *D. normale* and *D. dubium* the present species may be separated by the form of the tarsal claws of the male, and the abruptly sinuato-emarginate sides of the prothorax in the female; from *D. plicatum* by the broader prothorax, and the different position and shape of the lateral incision, as well as by the smaller eyes, in the male; and from *D. erosum* by the more dilated prothorax, with less upturned margins, the differently formed σ tarsal claws, etc. *D. inconstans*, too, is extremely like *D. photinoides*, Gorb., an insect occurring at the same locality in Guatemala (San Gerónimo), but differs from that species in its larger size and more elongate shape, and in having the tarsal claws of the male otherwise formed. Eleven males have been dissected, the internal sac of the aedeagus being partly or wholly evaginated in some of them.

33. *Discodon biolleyi*, n. sp.

Elongate, shining, testaceous, clothed with long pubescence, which is especially conspicuous on the prothorax; testaceous, the eyes, palpi, antennae (the base excepted), apices of the femora, tibiae in part, and tarsi infusate or black. Eyes very large and prominent in σ , a little smaller in $\text{\textcircled{f}}$. Antennae very long and slender. Prothorax broader than long, arcuate in front, transversely excavate on each side anteriorly, and depressed and carinate down the middle towards the base; obliquely notched on each side just behind the middle, and with the basal portion narrowed and parallel-sided, in σ ; broader and with the margins trisinate in $\text{\textcircled{f}}$. Elytra long, wider than the prothorax, subparallel, the sculpture rather coarse. Inner claw of anterior tarsi broadly lobed, and outer claw of the other tarsi cleft at tip, in σ .

Var. α . Elytra and abdomen (the apical margin of each segment excepted) black or piceous, the tibiae testaceous at the base. ♀.

Discodon erosum, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 285 (♀) (*nec* p. 79).

♂. Eighth ventral segment long, bluntly rounded and cleft in the middle at the tip; ninth segment long, broadly sub-bilobed at the apex, two pairs of stout hooks projecting from the internal sac (figs. 11, 11a).

Length (excl. head) 10, breadth $3\frac{1}{4}$ –4 mm. (♂ ♀.)

Hab. COSTA RICA, Cariblanco in Sarapiquí (*Biolley*: types, ♂ ♀); PANAMA, Volcan de Chiriquí (*Champion*: ♀, var.).

Described from the pair from Costa Rica; the female with black elytra referred to *D. erosum* by Gorham in his "Supplement" almost certainly belongs to the same species. *D. biolleyi* approaches *D. plicatum* and *D. stramineicolle*; the male has the anterior tarsal claws differently formed from those of *D. erosum*, and the prothoracic notch placed further forward.

34. *Discodon vitticolle*.

Discodon vitticolle, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, pp. 81, 286 (excl. var. from Coahuila); Kirsch, Abhandl. Mus. Zool. Dresden, 1888–1889, No. 41, p. 8.

Rather narrow (♂), broader and with the elytra somewhat explanate (♀), shining, clothed with fine pallid pubescence; fuscous or nigro-fuscous, the head on each side in front, and sometimes the epistoma also, the base of the mandibles, the prothorax (an incomplete median vitta, often widened posteriorly, excepted), the elytra with a humeral spot or streak—in some specimens continued obliquely down the disc to near the inner apical angle—and usually the suture and outer margin also, the femora and the tibiae in part or entirely, stramineous or testaceous. Antennae slender, long, sparsely pilose, shorter in ♀. Eyes large and prominent in ♂, smaller in ♀. Prothorax with the sides angularly notched at or just behind the middle in ♂, simply sinuate in ♀. Elytra a little wider at the base than the prothorax. Inner claw of anterior tarsi broadly lobed, and outer claw of the other tarsi cleft at the tip, in ♂.

♂. Eighth ventral segment emarginate in the middle at the apex, thus appearing broadly bilobed; ninth segment gradually narrowed

towards the tip, two stout hooks projecting from the internal sac, the latter, when seen evaginated, armed with various sharp backwardly-directed spines (figs. 12, 12a).

Hab. MEXICO, Durango, Vera Cruz, Oaxaca; GUATEMALA; COSTA RICA; PANAMA; COLOMBIA, Pasto.

A common insect in Guatemala and Panama, separable from *D. plicatum* by its more shining surface, and the testaceous femora and tibiae; the suture and outer margin of the elytra are frequently flavescens, and the pallid humeral streak is often continued as a narrow oblique stripe down the disc. Gorham described the prothorax as bright red, but not one of the long series before me shows this coloration. The three examples from Juquila in Oaxaca (♂ ♀) are larger than the rest. Five males have been dissected. The aedeagus is very similar to that of *D. plicatum*.

35. *Discodon chiriquense*.

Discodon photinoides, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 288 (*nec* p. 84).

Discodon triste, Gorh., loc. cit. pp. 82, 287 (part.).

♀. *Discodon chiriquense*, Pic, Mélanges exot.-entom., fasc. ii, pp. 14, 15 (Feb. 1912).

Narrow (♂), broader (♀), opaque, the head and prothorax shining, finely pubescent; nigro-fuscous or black, the anterior margin of the head, the base of the mandibles, the prothorax (a triangular patch of variable extent, sometimes extending to near the margin, excepted), the explanate outer margin of the elytra, and often the suture also, flavous, the humeri, the femora and tibiae in part, and the last ventral segment testaceous in some specimens. Eyes rather small in both sexes. Antennae widened, serrate, tapering outwards, very long in ♂, short in ♀. Prothorax transverse; narrow, subquadrate, and with a narrow, deep notch on each side just behind the middle; very broad, widely and abruptly explanate, and with the sides rounded and not or scarcely sinuate in ♀. Elytra in ♂ about as wide as, and in ♀ narrower than, the prothorax at the base, moderately explanate from a little below the shoulder. Inner claw of anterior tarsi broadly lobed, and outer claw of the other tarsi cleft at the tip, in ♂.

Var. ? Elytra wholly black. ♂ ♀.

♂. Eighth ventral segment cleft at the tip, appearing broadly bilobed; the evaginated internal sac, as seen from the dorsal aspect of the ninth segment, disclosing a long, slender, curved flagellum,

which is truncate at the apex, and three pairs of long, slender, curved hooks (figs. 13, 13a).

Length (excl. head) $6\frac{1}{4}$ - $7\frac{1}{2}$, breadth $2\frac{1}{2}$ - $3\frac{1}{8}$ mm. (σ \varnothing .)

Hab. MEXICO, Jalapa (*Höge*), Juquila (*Sallé*); GUATEMALA, Sabo in Vera Paz (*Champion* : \varnothing); COSTA RICA, La Palma (*Biolley* : σ \varnothing), Rio Sucio, Irazu (*Rogers* : σ \varnothing); PANAMA, Volcan de Chiriqui (*Champion* : σ \varnothing).

The above diagnosis is taken from the Costa Rica and Panama specimens, and various females from Juquila and Jalapa, Mexico, and Vera Paz, Guatemala, no doubt belong to the same species. The description of *D. chiriquense* is inadequate, but it seems to apply to the female of the present insect. The two sexes are so dissimilar that they might be taken for different species, the Lampyriiform female having an unusually broad, strongly explanate prothorax, with the margins simply rounded. Three of the six males seen have been dissected.

36. *Discodon sinuaticolle*, n. sp.

Discodon triste, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, pp. 82, 287 (part.).

Moderately elongate, rather broad, clothed with fine cinereous or brownish pubescence; nigro-fuscous, the anterior portion of the head, the base of the mandibles, and the prothorax (a triangular space on the disc excepted) pale flavous, the legs in part and the humeri testaceous. Eyes somewhat prominent in σ . Antennae rather stout, tapering towards the tip, subserrate, moderately long in σ , short in \varnothing , sparsely pilose. Prothorax strongly transverse, as wide as the base of the elytra, a little broader in \varnothing ; the sides sinuate and feebly notched behind the middle in σ , deeply sinuate in \varnothing . Elytra moderately long, feebly explanate, the disc obsolete costulate. Inner claw of anterior tarsi broadly lobed, and outer claw of the other tarsi split at the tip, in σ .

σ . Eighth ventral segment long, abruptly narrowed from about the middle, rounded and feebly cleft at the tip; ninth segment gradually narrowed, somewhat lobed on each side at the apex, a pair of long spines visible beyond it (fig. 14).

Length (excl. head) 6 - $7\frac{3}{4}$, breadth $2\frac{1}{3}$ - $3\frac{1}{4}$ mm. (σ \varnothing .)

Hab. NICARAGUA, Chontales (*Belt*); COSTA RICA (*Van Patten*); PANAMA, Bugaba (*Champion*).

Eight females and two males, placed by Gorham (but not quoted) under *D. photinoides*. A little less elongate

than *D. chiriquense*, the prothorax of the male with a shallower lateral notch, and that of the female more deeply sinuate at the sides than in the same sex of *D. photinoides*, the antennae of the male less elongate and less widened. Two males have been dissected.

37. *Discodon amplipenne*, n. sp.

Moderately elongate, broad, shining, finely pubescent; nigropiceous or black, the base of the mandibles and prothorax (a median vitta excepted) flavous, the elytral humeri sometimes testaceous. Eyes rather small in both sexes. Antennae moderately long, tapering slightly towards the tip. Prothorax transverse, arcuate in front; angularly notched on each side at the middle and narrower and parallel thence to the base in ♂, explanate and with the sides feebly sinuate in ♀. Elytra at the base about as wide as the prothorax, moderately long, broadly arcuato-ampliate from a little below the shoulder, costulate on the disc. Inner claw of anterior tarsi broadly lobed, and outer claw of the other tarsi deeply cleft, in ♂.

Var. *a*. Prothorax entirely flavous. ♀.

♂. Eighth ventral segment long, oval, rounded and slightly reflexed at the tip; ninth segment oblong, subparallel-sided, the apex produced in the middle, subtruncate on each side, and angulate externally, two hooks projecting from the internal sac (fig. 15).

Length (excl. head) 9–9 $\frac{3}{4}$, breadth 3 $\frac{1}{2}$ –4 $\frac{1}{2}$ mm. (♂ ♀).

Hab. MEXICO, Cuernavaca in Morelos, Juquila in Oaxaca (*Sallé*).

Described from two pairs from Cuernavaca and a female of the variety with immaculate prothorax from Juquila, the former included by Gorham under *D. plicatum* and the latter under *D. difficile*. The dilated elytra, and the small eyes and differently-shaped ninth ventral segment of the male, distinguish *D. amplipenne* from *D. plicatum*, the prothorax of which varies in colour in a similar way. From similarly-coloured *D. luridum*, ♂, the present species may be separated by the narrower prothorax, with differently placed median notch, and the cleft outer intermediate tarsal claw.

38. *Discodon cleroides*.

Discodon cleroides, Gorh., Biol. Centr.-Am., Coleopt, iii, 2, p. 84 (♂ ♀) (part.) (*nec* p. 287).

Telephorus cleroides, Gorh., loc. cit. pl. 5, fig. 18 (♀).

Rather broad, black, the anterior margin of the head, the mandibles in part, a broad oblique submarginal stripe on each side of the prothorax, and sometimes the last two ventral segments, yellow. Eyes not prominent. Antennae short, stout, serrate, tapering towards the tip. Prothorax strongly transverse; in ♂ subquadrate, widened posteriorly, and with a deep, narrow, abrupt notch on each side just behind the middle; in ♀ broader, explanate, the sides rounded, sinuate at about the middle. Elytra more or less explanate from a little below the shoulder. Inner claw of anterior tarsi broadly lobed, and outer claw of the other tarsi split, in ♂.

♂. Internal sac, as seen evaginated, disclosing an extremely long, acuminate, bisinuate flagellum, a shorter, stout, curved tube beneath it, and three very long, hook-like processes on each side. (Figs. 16, 16a.)

Hab. GUATEMALA, Dueñas and Purula.

In the pair from Dueñas the last two ventral segments are flavescens, the smaller example (♀) from Purula having the abdomen black. The intermediate tarsal claws are now wanting in the unique male, but Gorham says the outer one is not lobed. The Mexican *Polemium nigromarginatus* and *P. nigrolimbatus* are similarly coloured forms, but the males of these insects have one of the claws of each foot simply lobed at the base, and none of them cleft.

39. *Discodon melancholicum*.

Discodon melancholicum, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 81 (excl. Parada specimen).

Discodon triste, Gorh., loc. cit. pp. 82, 287 (specimens from Guanajuato and San Luis Potosi only).

Rather shining, black, the prothorax usually in part flavous or rufescent at the sides (leaving a large cruciform black patch or median vitta on the disc black), in some specimens entirely black. Antennae (♂) long, subserrate, closely set with short bristly hairs, slightly tapering towards the tip; (♀) shorter and more slender, sparsely pilose. Prothorax of ♂ with the sides slightly notched at about the middle and subparallel thence to the rectangular hind angles, of ♀ moderately explanate and very feebly sinuate, and with the hind angles obtuse. Elytra about as wide as the prothorax at the base, and at most very feebly explanate. Inner claw of anterior tarsi broadly lobed, and outer claw of the other tarsi cleft at the tip, in ♂.

♂. Eighth ventral segment carinate, rounded and feebly cleft at

the tip; ninth segment subtrilobate at the apex and deeply excavate anteriorly on each side of the convex central portion, two stout hooks projecting from the internal sac (fig. 17).

Hab. MEXICO, San Luis Potosi, Durango, Guanajuato, Michoacan, Puebla, Guerrero, and Mexico City.

Gorham correctly surmised that his *D. triste*, which is an abundant insect on the highlands of Mexico, was not specifically distinct from *D. melancholicum* (from Guanajuato and Michoacan), the latter simply having the lighter-coloured portions of the prothorax obscurely rufescent or wanting, the characteristic cruciform black patch on the disc being, however, clearly visible in the example marked "type." The specimens quoted by him under *D. triste* from all the localities south of Mexico belong to other species, as well as the one from Parada, Oaxaca, placed under *D. melancholicum*. Fresh examples of the male have the antennae densely setulose as in *D. nigropilosum*. Five specimens of this sex have been dissected, showing the peculiar shape of the ninth ventral segment. A long series of the form described as *D. triste* has been received from the neighbourhood of the city of Mexico; the typical *D. melancholicum*, with darker prothorax, is apparently rare. Schaeffer (Journ. N. York Ent. Soc. xvi, p. 61) incorrectly refers this species to *Polemius*.

40. *Discodon atronitens*, n. sp.

Rather broad, shining, finely pubescent; black, the sides of the head in front, the base of the mandibles, the anterior and lateral margins of the prothorax, and sometimes the explanate margins of the elytra in part, the humeri, and the last two ventral segments (in both ♂ and ♀), flavescens or reddish. Head rather broad, the eyes somewhat prominent in ♂; antennae short in ♀, longer in ♂, rather stout, subserrate, tapering towards the tip, joint 3 as long as 4. Prothorax transverse, broadly rounded at the apex; the sides subparallel towards the base, deeply, obliquely notched at about the basal third in ♂, simply sinuate and narrowly explanate in ♀, the hind angles rectangular; the surface uneven, closely, finely punctate, smoother on the disc. Elytra wider than the prothorax, coriaceous, moderately explanate from a little below the base in both sexes. Inner claw of anterior tarsi broadly lobed, and outer claw of the other tarsi deeply cleft, in ♂.

♂. Eighth ventral segment oblong, broadly rounded at the apex,

and with a minute projection on each side of the longitudinal median groove at the tip.

Length (excl. head) $9-10\frac{1}{2}$, breadth $3\frac{3}{4}-4\frac{1}{2}$ mm. (σ ♀.)

Hab. W. MEXICO, Xucumanatlan and Amula in Guerrero, 6000–7000 ft. (*H. H. Smith*).

Eleven specimens, all females but two, varying in the development of the flavous margin to the prothorax and elytra, which may be almost wholly wanting, and in the colour of the apex of the abdomen, the latter being usually black. Very like *D. melancholicum*, Gorb., but with the prothorax of the male deeply and abruptly notched at the sides at about the basal third, and the elytra explanate at the sides in both sexes.

41. *Discodon funereum*, n. sp.

Elongate, opaque, wholly black, nigro-pilose. Eyes moderately large and prominent in σ , small in ♀. Antennae very long, somewhat dilated, and subserrate in σ , comparatively short and tapering outwards in ♀. Prothorax (σ) narrow, subquadrate, bicallose on the disc behind, the margins with a deeply-cut angular notch at the middle and parallel thence to the rectangular hind angles; (♀) strongly transverse, broad, the margins reflexed and feebly bisinuate, the hind angles obtuse. Elytra much wider than the prothorax, subparallel, and unusually elongate in σ , explanate laterally and not much wider than the prothorax in ♀, roughly punctate and feebly costulate. Inner claw of anterior tarsi lobed at base, and outer claw of the other tarsi cleft, in σ .

σ . Eighth ventral segment oblong, parallel-sided, rounded and reflexed at the tip; ninth segment feebly trilobed at the apex.

Length (excl. head) 8, breadth $3-3\frac{1}{2}$ mm. (σ ♀.)

Hab. MEXICO, Ciudad in Durango, 8000 ft. (*Höge*).

One pair. The male of this insect is not unlike the same sex of *D. carbonarium*, Gorb., from which it may be known by its larger size and rougher sculpture; the widened, subserrate antennae and the differently-shaped prothorax and tarsal claws of the male, etc. The female is very dissimilar in appearance. *Polemius niger*, Schaeff., from the Huachuca Mts., Arizona, described from a single female example, seems to come very near *D. funereum* and *D. melancholicum*; but in the absence of the male it is impossible to speak with any certainty.

42. *Discodon nigropiceum*, n. sp.

Moderately elongate, widened posteriorly, finely cinereo-pubescent, the head and prothorax shining, the elytra dull; nigropiceous, the sides of the head in front and the base of the mandibles flavous. Eyes small. Antennae very long, somewhat widened, and subserrate in ♂, shorter and tapering in ♀. Prothorax (♂) subquadrate, the margins with a deeply-cut angular notch at the middle and parallel thence to the rectangular hind angles; (♀) strongly transverse, semicircular, wider than the base of the elytra, the margins broadly explanate and reflexed. Elytra moderately long, at the base in ♂ much wider than, in ♀ not quite so broad as, the prothorax, feebly explanate laterally in ♂, broadly so in ♀, roughly punctate and faintly costulate. Inner claw of anterior tarsi lobed at base, and outer claw of the other tarsi cleft (the outer section of the claw shorter than the inner), in ♂.

Length (excl. head) $5\frac{1}{2}$ - $7\frac{1}{2}$, breadth $2\frac{1}{10}$ -4 mm. (♂ ♀.)

Hab. MEXICO, Ventanas in Durango (*Höge*).

One pair, the female Lampyriform and very different from the male, but almost certainly belonging to the same species. Much less elongate than *D. funereum*, the head and prothorax smoother and shining, the pubescence finer and not black, the elytra of the male less parallel and that of the female dilated (much as in *D. amplipenne*), the sides of the prothorax of the female broadly reflexed. The elytra of the latter have been flattened in some way and appear broader than they really are.

43. *Discodon divisum*, n. sp. (Plate III, fig. 2, ♂.)

Moderately elongate, shining, finely pubescent; testaceous or flavo-testaceous, the basal half of the head, the eyes, the antennae (except the basal joint wholly or in part), a large elongate patch at the apex of each elytron (sometimes extending over nearly the apical half), the sterna, abdomen (the margins excepted), and legs in part or almost entirely (the base of the anterior femora excepted) black. Eyes large and prominent in ♂, smaller in ♀. Antennae long and subserrate in ♂, shorter and slender in ♀. Prothorax (♂) transverse, the sides notched at the basal third, rounded anteriorly, and parallel from the notch to the base; (♀) broader and with a shallower lateral notch, the hind angles obtuse. Elytra moderately long, wider than the prothorax, subparallel in ♂, slightly explanate from a little below the shoulder in ♀. Inner claw of anterior tarsi broadly lobed, and outer claw of the other tarsi cleft, in ♂.

♂. Eighth ventral segment rapidly narrowed outwards, the apex narrow and cleft at the middle.

Length (excl. head) $7\frac{1}{2}$ – $8\frac{1}{2}$, breadth $2\frac{1}{2}$ – $3\frac{1}{2}$ mm. (♂ ♀.)

Hab. MEXICO, Chilpancingo in Guerrero (*Höge*, *H. H. Smith*), Cuernavaca in Morelos (*Höge*).

Eight males and five females, varying a little in the colour of the legs and apices of the elytra, according to the development of the black portions of the surface. *D. rufipes*, from Oaxaca, is a nearly allied form.

44. *Discodon nigripes*.

Discodon nigripes, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 80.

Elongate, a little widened posteriorly, shining, clothed with rather long pubescence, this being conspicuous at the sides of the prothorax in ♂; reddish-ochraceous or testaceous, the antennae, eyes, legs, and under surface, and the head in great part or entirely in the Mexican examples, black. Eyes large in ♂, smaller in ♀. Antennae long and slender. Prothorax transverse, the margins with a narrow oblique notch at about the middle in ♂; broader and simply sinuate at the sides in ♀. Elytra elongate, wider than the prothorax, somewhat widened posteriorly, distinctly costate. Inner claw of anterior tarsi with a broad triangular lobe, and outer claw of the other tarsi cleft at tip, in ♂.

Var. *α*. Prothorax with an abbreviated median vitta, and the elytra with a common, broad, gradually narrowed, sutural stripe extending from the base to near the apex nigro-piceous, the head wholly black. ♀.

♂. Ninth ventral segment narrow, produced in the middle at the apex, two stout hooks visible within the internal sac.

Hab. MEXICO, Tepetlapa and Chilpancingo in Guerrero (*H. H. Smith*), Cuernavaca in Morelos (*Höge*, *H. H. Smith*), Capulalpam and Panistlahuaca in Oaxaca (*Sallé*); GUATEMALA, Las Mercedes [type], Volcan de Atitlan (*Champion*).

A good series of this species is now available for examination, including numerous specimens from Mexico, one of which was labelled (but not quoted) by Gorham. The black legs and under surface, the position of the prothoracic notch, and the form of the anterior tarsal claws of the male, separate *D. nigripes* from *D. incisum*. The variety is represented by a single example from Panistlahuaca. A wholly testaceous female from Oaxaca (*Sallé*) may belong here.

45. *Discodon rufipes*, n. sp.

Discodon rufipes, Gorh., in litt.

Moderately elongate, finely pubescent; nigro-piceous or black, the anterior portion of the head, the basal joint of the antennae, the prothorax and scutellum, the sides of the elytra to near the apex, and in one specimen nearly the basal half of the disc also, and the legs (the tarsi and apices of the tibiae excepted) testaceous or flavo-testaceous. Antennae long and slender in both sexes. Eyes rather small, a little larger and more prominent in ♂. Prothorax (♂) slightly broader than long, arcuate in front, the sides narrowly and somewhat deeply notched at about the basal third, and parallel thence to the rectangular hind angles; (♀) broader and more transverse, narrowing from near the base, the sides explanate, reflexed, and strongly sinuate. Elytra wider than the prothorax, subparallel in ♂, slightly dilated from a little below the shoulder in ♀. Inner claw of anterior tarsi broadly lobed, and outer claw of the other tarsi cleft, in ♂.

♂. Eighth ventral segment oblong, broadly rounded at the tip.

Length (excl. head) $7\frac{1}{2}$ – $8\frac{1}{4}$, breadth 3– $3\frac{1}{2}$ mm. (♂ ♀.)

Hab. MEXICO, Juquila in Oaxaca (*Sallé*).

One male and two females. This species looks like a form of *D. divisum* with the black portion of the elytra showing a tendency to extend forwards to the base. The male, however, has the prothorax more rounded at the apex and the lateral notch much deeper, the antennae more slender, and the eighth ventral segment differently shaped; the female, too, has the prothorax narrowed from near the base, with the margins reflexed and bisinuate, instead of notched as in the same sex of *D. divisum*.

46. *Discodon duplovittatum*, n. sp.

Moderately elongate, widened posteriorly, shining, finely pubescent; the head between the eyes, the antennae, two vittae on the disc of the prothorax, the legs (except the anterior and intermediate coxae, trochanters, and femora to near the tip in ♂), and under surface black, the rest of the surface testaceous. Antennae long, slender. Eyes large in ♂, smaller in ♀. Prothorax (♂) nearly as long as broad, subquadrate, arcuate in front, the sides shallowly, obliquely notched at about the middle and slightly divergent thence to the subrectangular hind angles; (♀) broader, with the sides feebly sinuate at the basal third and gradually convergent thence to

the apex. Elytra wider than the prothorax, moderately explanate from a little below the shoulder, roughly punctate and distinctly costate. Inner claw of anterior tarsi broadly lobed, and outer claw of the other tarsi cleft at tip, in ♂.

Length (excl. head) $7-7\frac{1}{2}$, breadth $3-3\frac{1}{2}$ mm. (♂ ♀.)

Hab. MEXICO (*Truqui*, ex coll. *Fry*, *Mus. Brit.*).

One pair. Not unlike *D. luridum*, Gorb., but much smaller and narrower, the prothorax bivittate (as in *D. bivittatum*), the elytra distinctly costate and much less explanate, the outer claw of the intermediate and posterior tarsi cleft at the tip in ♂, the prothoracic notch of the ♂ placed at the middle. From the similarly-coloured variety of *D. bivittatum* the present species may be known by the differently-shaped prothorax, with less reflexed margins, the form of the tarsal claws, etc.

47. *Discodon testaceipenne*, n. sp.

♂. Moderately elongate, widened posteriorly, shining, finely pubescent; black, the sides of the head in front, the base of the mandibles, the prothorax (a median vitta excepted), and elytra testaceous. Eyes rather small. Antennae nearly as long as the body, somewhat widened, serrate, slightly tapering outwards. Prothorax nearly as long as broad, arcuate in front; the sides abruptly, obliquely notched just behind the middle, and gradually divergent thence to the prominent hind angles, appearing obtusely dentate in front of the emargination. Elytra wider than the prothorax, gradually widened from a little below the shoulder, costate on the disc. Inner claw of anterior tarsi broadly lobed, the outer claw of the other tarsi cleft.

♂. Ninth ventral segment oblong, trilobed at the apex, the central portion narrowly produced, leaving a slender, obliquely projecting spine visible on each side.

Length (excl. head) $6\frac{1}{2}$, breadth $2\frac{2}{3}$ mm.

Hab. MEXICO, Ventanas in Durango (*Höge*).

One male. Very like the same sex of *D. duplovittatum*, but with a single vitta on the prothorax and the lateral notch deeper (appearing angulate in front of the emargination), the head and eyes smaller, the antennae broader and more distinctly serrate. It is much smaller and narrower than the similarly coloured *D. luridum*, Gorb., and has the prothoracic notch placed further forward and the outer claw of the intermediate tarsi cleft.

48. *Discodon calidum*.

Discodon calidum, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 285 (♂ ♀).

Rather broad, shining, clothed with long pubescence; ochreotestaceous, the antennae (joints 8-11 excepted), eyes, a triangular mark on the vertex of the head, a narrow median vitta on the prothorax, the knees, tibiae, tarsi, and abdomen black. Antennae long, serrate, rather stout, much narrowed towards the tip. Eyes moderately large in ♂, smaller in ♀. Prothorax transverse, arcuate in front, somewhat widened towards the base; the sides obliquely notched a little behind the middle in ♂, and emarginate in the same place in ♀. Elytra long, at the base slightly wider than the prothorax, moderately explanate from a little below the shoulder, feebly costulate on the disc, the colour somewhat modified by the close ochreous pubescence. Inner claw of anterior tarsi broadly lobed, and outer claw of the other tarsi deeply cleft, in ♂.

♂. Eighth ventral segment broad, rather long, broadly rounded and distinctly dentate on each side at the apex (fig. 18); ninth segment subtrilobed at the tip, a long, stout, compressed hook projecting from it on each side at the apex (fig. 18a).

Hab. PANAMA, Volcan de Chiriqui.

One male and two females seen. Larger and broader than *D. nigripes*, the prothorax vittate, the terminal three joints of the antennae, and the femora to near the tip, testaceous. *D. calidum* has the general facies of a Lycid. It is closely related to *D. purpurascens*, a fact not observed by Gorham.

49. *Discodon purpurascens*.

Discodon purpurascens, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 87.

Silis (?) *purpurascens*, Gorh., loc. cit. pl. 5, fig. 23 (♀).

Broad, widened posteriorly, closely pubescent, the pubescence partaking of the ground-colour; black, the head (except a large triangular patch on the vertex, which extends outwards to the eyes) and prothorax (a median vitta excepted) testaceous or rufo-testaceous, the elytra bright red. Eyes rather small, prominent in ♂. Antennae moderately long, dilated, serrate, tapering outwards. Prothorax (♂) transverse, arcuate in front, parallel-sided at the base, the margins abruptly notched behind the middle; (♀) broader, narrowing from the base, the margins sinuate at about the basal

third. Elytra at the base slightly wider than the prothorax, somewhat explanate from a little below the shoulder, rather coarsely sculptured. Tarsi dilated, the anterior pair broader in ♂; inner claw of anterior pair broadly lobed, and outer claw of the others cleft, in ♂.

♂. Eighth ventral segment emarginate in the middle at the apex, the latter appearing broadly bilobed; internal sac, as seen partially evaginated, disclosing a long, acute, backwardly projecting spine on each side, and various other slender spines in the centre. (Fig. 19.)

Hab. COSTA RICA.

Redescribed from the types, the male, as stated by Gorham, being discoloured and completely abraded, the female, on the contrary, is in perfect condition. The wholly black legs and antennae, the basally widened prothorax of the female, and the genital armature of the male, separate *D. purpurascens* from *D. calidum*. The female might easily be mistaken for a Lycid; it has the elytral pubescence scarlet.

50. *Discodon histrio*.

Discodon histrio, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 86, pl. 5, fig. 22 (♀, not ♂ as quoted) (*nec* p. 288).

Moderately elongate, widened posteriorly, shining, finely pubescent; black, some markings on the front of the head, the base of the mandibles, the sides of the prothorax broadly, and an elongate humeral patch on the elytra, ochreous or rufo-testaceous. Eyes rather small, a little larger and prominent in ♂. Antennae moderately long, subserrate, tapering towards the tip. Prothorax (♂) subquadrate, arcuate in front, obliquely notched on each side at the middle; (♀) broader and more transverse, the sides sinuate and converging from near the base. Elytra considerably wider than the prothorax, widened from a little below the shoulder, rugosely punctured and distinctly costate. Inner claw of anterior tarsi broadly lobed, and outer claw of the other tarsi cleft, in ♂.

♂. Eighth ventral segment oblong, narrowing outwards, rounded and notched in the middle at the apex, the dorsal portion of the same segment short, broadly bilobed at the tip, two stout hooks projecting from the internal sac. (Fig. 20.)

Hab. GUATEMALA, Capetillo and Dueñas.

Redescribed from two females and one male. The

specimen figured by Gorham is a female, not a male as stated. A Lyciform insect, very like some of the species placed by him under *Silis*, e. g. *S. lycoides*, *varians*, etc. It is perhaps nearest allied to *D. purpurascens*, which has broader tarsi, red elytra, etc. The male from Coahuila, Mexico, quoted on p. 288 of the "Biologia," which cannot now be found, must have belonged to a different species.

51. *Discodon cardinale*, n. sp. (Plate III, fig. 3, ♂.)

Elongate, narrow (♂), broader (♀), opaque, thickly pubescent; black, the sides of the head in front, the base of the mandibles, and the tarsal claws testaceous or rufo-testaceous, the prothorax (a narrow median vitta excepted) and elytra (except along the sutural margin anteriorly) brick-red, the vestiture of the latter similarly coloured. Head rather small, obliquely narrowed behind the eyes, the latter prominent; antennae about reaching the middle of the elytra, very broadly dilated from joint 3 in both sexes, 7-11 rapidly narrowing outwards. Prothorax (♂) transversely subquadrate, very gradually narrowed from the base forwards, and with the margins shallowly notched at about the basal fourth; (♀) broader, more rounded at the sides, and more rapidly narrowed from the base, the margins conspicuously hollowed at the basal fourth. Elytra long, a little wider than the prothorax, broader in ♀, flattened on the disc, faintly tricostate, the sculpture hidden by the vestiture. Inner claw of anterior tarsi broadly lobed, and outer claw of the other tarsi cleft at tip, in ♂.

♂. Eighth ventral segment oblong, narrowed outwards, rounded and cleft in the middle at the apex, two stout hooks projecting from the internal sac.

Length (excl. head) $7\frac{1}{2}$ - $9\frac{1}{2}$, breadth $2\frac{1}{2}$ - $3\frac{1}{2}$ mm. (♂ ♀.)

Hab. MEXICO, Atoyac in Vera Cruz (*H. H. Smith*).

One pair. A Lyciform insect related to the Costa Rican *D. purpurascens*, Gorham, but much smaller and narrower, and with the antennae as broadly dilated in both sexes as in various species placed by that author under *Silis*, e. g. *S. serrigera*, *plateroides*, etc. These latter are here placed under *Discodon*, their respective males having one of the claws of the intermediate and posterior tarsi cleft.

52. *Discodon subulicorne*, n. sp. (Plate III, fig. 4, ♂.)

Moderately elongate, widened posteriorly, rather dull, finely pubescent; nigro-piceous or black, the sides of the head in front,

the base of the mandibles, the sides of the prothorax broadly, and about the basal third of the elytra (♂), or a humeral streak (♀), ochreous or rufo-testaceous. Eyes small. Antennae moderately long, broadly dilated and subserrate, rapidly tapering outwards. Prothorax (♂) strongly transverse, arcuate in front, parallel-sided from the narrow oblique lateral notch, which is placed at about the basal fourth, to the rectangular hind angles; (♀) simply sinuate before the base, and with the sides arcuately converging thence to the apex. Elytra moderately dilated from a little below the shoulder, rugulose sculptured and conspicuously costate. Inner claw of anterior tarsi broadly lobed, and outer claw of the other tarsi cleft at tip (the outer section of the claw shorter than the inner), in ♂.

Length (excl. head) 8½–9, breadth 3–3¾ mm. (♂ ♀.)

Hab. GUATEMALA, Capetillo and Dueñas (*Champion*).

One pair, the female with the elytra infuscate, the humeral streak excepted. These insects were left by Gorham under *D. histrio*, which was from the same localities in Guatemala, and labelled by him *Discodon* sp. The broadly dilated, rapidly tapering antennae, the short prothorax, with the lateral excision of the male placed much nearer the base, etc., readily separate *D. subulicorne* from *D. histrio*. The elytra vary in colour, as in the species described by Gorham under the names *Silis varians*, *serrigera*, etc.

53. *Discodon combustum*. (Plate VIII, fig. 56,
prothorax, ♂.)

Silis combusta, Gorb., Biol. Centr.-Am., Coleopt. iii, 2,
p. 293 (♂ ♀).

Silis varians, Gorb., loc. cit. p. 92 (♀) (part.).

Polemium (?) *combustus*, Schaeff., Journ. N. York Ent. Soc.
xvi, p. 62.

♂. Eyes large; antennae long, joints 3–11 moderately dilated, subserrate, tapering towards the tip; prothorax a little broader than long, arcuate in front, obliquely compressed on each side of the disc anteriorly, the margins deeply notched at the middle, and subparallel and scarcely reflexed thence to the subrectangular hind angles; anterior and intermediate tarsi dilated; inner claw of anterior tarsi strongly lobed at base, the outer claw of the other tarsi cleft at tip.

♀. Eyes smaller; antennae with joints 3–7 much broader, 8–11

rapidly narrowing, 9 and 10 narrow; prothorax broader, strongly transverse, narrowing from near the base, the margins notched in front of the prominent hind angles.

Hab. GUATEMALA, Teleman and Chacoj in the Polochic valley.

Four males and seven females seen, varying in the colour of the prothorax and elytra, the latter wholly ochraceous or with the apical half black, the black extending forwards in one specimen so as to leave only the shoulders pale. The prothorax is always vittate. The male has the prothorax shaped as in many species of *Discodon*; the female is very like that of *D. serrigerum*, but it has a slightly shorter prothorax and the antennae not quite so long.

54. *Discodon plateroides*.

♀. *Silis plateroides*, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 291.

Hab. PANAMA, Bugaba.

Described from three females. The two reserved for the "Biologia" collection are very like the corresponding sex of the Mexican *D. cardinale*, and also have broadly dilated tapering antennae; but in the present insect the prothorax, scutellum, elytra, femora, and basal half of the tibiae are ochraceous, the prothorax is broader, more dilated at the sides, and has the shallow emargination in front of the hind angles more extended forwards (the margins being bisinuate before the base in *D. cardinale*), and the elytra are more dilated posteriorly. The male of *D. plateroides* will doubtless prove to have the general structure of the same sex of *D. cardinale*. Gorham notes the close resemblance to the Lycid *Plateros rubricatus*.

55. *Discodon diversum*.

Silis diversa, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 292 (♀).

Hab. PANAMA, Bugaba.

Described from two females. Broader, more widened posteriorly, and more shining than *D. serrigerum* (♀), the apical three joints of the antennae, the prothorax, and femora ochraceous; the prothorax smoother and broader, less narrowed anteriorly, and feebly bisinuate at the sides

posteriorly; the elytra smoother at the base, granulate towards the apex.

56. *Discodon varians*. (Plate VIII, fig. 57, prothorax, ♂.)

Silis varians, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, pp. 92, 291 (part.) (excl. fig.).

♂. Eyes rather small; antennae moderately long, joints 3-11 dilated, serrate, and canaliculate, rapidly tapering outwards; prothorax transverse, subcampanulate, obliquely compressed on each side of the disc anteriorly, the margins narrowly reflexed and obliquely notched just in front of the prominent hind angles; elytra about as broad at the base as the prothorax, more or less widened posteriorly; inner claw of anterior tarsi with a broad angular lobe at the base, the outer claw of the other tarsi cleft at tip.

♀. Eyes less prominent; mandibles curved; antennae with joints 3-8 very broadly dilated, subserrate, 9-11 rapidly narrowing; prothorax broader, arcuately narrowing anteriorly, the sides with a longer and shallower notch in front of the hind angles.

♂. Ninth ventral segment elongate, produced in the middle at the tip, two pairs of stout hooks projecting from the internal sac. (Fig. 21.)

Hab. MEXICO, Cordova [♀], Jalapa [♀], Teapa [♀], Juquila [var. ♂]; GUATEMALA, San Joaquin in Alta Vera Paz [type, ♂], Dueñas [♂♀], San Isidro [♂].

Gorham originally included, as he himself states (*loc. cit.* p. 291), several species under his *Silis varians* (mainly owing to the absence of males of some of the forms); but in his "Supplement" he fixes as type a male from San Joaquin, and says that the true *S. varians* has shorter antennae than *S. serrigera*, and (on p. 92) he notes that the prothorax is minutely notched immediately before the hind angles in both sexes. These characters bring *D. (Silis) varians* very near *D. serrigerum*, from which it may be separated by its relatively shorter prothorax, the shorter antennae and the more broadly lobed inner anterior tarsal claw of the male. The ten examples before me vary in the development of the ochreous basal portion of the elytra, this being reduced to a humeral spot in the var. from Juquila and in one specimen from Zapote. The examples from the other localities quoted by Gorham belong to different species.

57. *Discodon mexicanum*.

Silis mexicana, Pic, Bull. Soc. Ent. Fr. 1909, p. 346.

Hab. MEXICO, (*coll. Pic*).

Pic describes this insect as near *Silis praemorsa*, Gorh. (= ♂ of *S. lycoides*), differing from it in having the prothorax but little incised laterally and the head more broadly black: elongate, rather shining, black; the head in part, the sides of the prothorax, and the humeral callus flavous; antennae moderately long, slightly thickened at the base, attenuate at the apex; prothorax transverse, with the sides subarcuate anteriorly, almost straight posteriorly, and feebly emarginate behind; elytra broader than the prothorax, long, dilated towards the middle, densely, rugulose punctate.

The sex is not stated, and as the colour of the elytra is variable, and of no value as a specific character, in these Lyciform insects, it is impossible to certainly identify *Silis mexicana* from the incomplete description: it may be a male of *D. (Silis) varians*, or of an allied form of which we have various females from Mexico, etc., left doubtfully placed by Gorham under *S. varians*, *lycoides*, and *nodicollis*. Five of these females (from Toxpam, Jalapa, Cordova, San Juan, and San Gerónimo) have the apical half or more of the elytra, and the suture thence to the base (in part or entirely), a dorsal vitta on the prothorax, and the head in part, black; the mandibles long and abruptly bent; the antennae rather short, stout, greatly dilated from the third joint, tapering towards the apex; the prothorax transverse, subquadrate, uneven, the margins dilated, reflexed, and trisinate (appearing subangular anteriorly); the hind angles prominent; the elytra broader than the prothorax, dilated posteriorly, rugose, and distinctly costate. Till these ♀ forms can be obtained with their respective males from their special localities it is impossible to locate them correctly.

58. *Discodon serrigerum*. (Plate VIII, fig. 58,
prothorax, ♂.)

Silis serrigera, Gorh., Biol. Centr.-Am., Coleopt. iii, 2,
p. 292 (♂ ♀).

Silis varians, Gorh., loc. cit. p. 92 (part.).

Silis varians, var., Gorh., loc. cit. pl. 6, fig. 1 (♀).

♂. Eyes rather small; antennae long, flattened, broadly serrate, and lineate from the third joint, becoming rapidly narrower from the seventh onwards, 10 and 11 narrow and often flavous; prothorax about as long as broad, rather narrow, subcampanulate, obliquely compressed on each side of the disc anteriorly, the margins narrowly reflexed, and narrowly obliquely notched immediately in front of the laterally-projecting hind angles; elytra long, usually more or less dilated posteriorly; inner claw of anterior tarsi with an abrupt narrow dentiform lobe at the base, and outer claw of the other tarsi feebly cleft at tip.

♀. Eyes smaller; antennae with the intermediate joints still broader; prothorax a little broader at the base, the notch in front of the hind angles shallower and longer.

Hab. MEXICO, Tuxtla [♀], Teapa [♂ ♀]; GUATEMALA, Panima in Alta Vera Paz (♂ ♀); PANAMA, Bugaba, Volcan de Chiriqui, Caldera [♂ ♀, types].

This species has the antennae and prothorax (except that the notch in front of the hind angles is shallower in ♀) very similarly formed in the two sexes, and the inner anterior tarsal claw of the male armed with an abruptly projecting dentiform lobe. The elytra are often wholly ochreous, except along the basal portion of the suture, but in some specimens the apical half and the suture thence to the base are black; the prothorax always has a black median vitta, extending forwards on to the head; and the femora are sometimes testaceous to near the apex. Gorham figured a pallid female from Panima as a variety of *S. varians*. His selected types of *D. (Silis) serrigerum* were from Chiriqui.

SECTION III.

59. *Discodon lampyroides*.

Telephorus (Discodon?) lampyroides, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 89, pl. 6, fig. 15 (♀).

Discodon lampyroides, Gorh., loc. cit. p. 288 (♂ ♀).

Telephorus picticollis, Gorh., loc. cit. pp. 79, 83, 84, 287 (sine descr.).

Elongate, broad, shining, finely pubescent; varying in colour from black, with the prothorax (an oblong patch on the disc excepted) and the abdomen in great part (the last ventral segment excepted) testaceous to almost entirely testaceous (a spot at the

base of the prothorax excepted), the elytra in the type fuscovittate on the disc and for the rest pale testaceous. Eyes moderately large. Antennae very long, slender, and sparsely pilose in both sexes. Prothorax transverse; the sides in ♂ subparallel, and with a narrow, deep, oblique notch at about the basal third, in ♀ broadly explanate, and sinuate or, at most, feebly rounded. Elytra very long, moderately explanate from a little below the shoulder. Inner claw of anterior and outer claw of intermediate tarsi broadly lobed, and outer claw of posterior tarsi deeply cleft, in ♂.

♂. Eighth ventral segment short, rapidly narrowed, arcuato-carinate down the middle at the apex, the apex itself rounded; internal sac, as seen evaginated, with a long, greatly developed, wing-like, acuminate process on each side, a pair of stout, laterally-projecting hooks at the base, and two long spines on each side of the central tube. (Fig. 22.)

Hab. GUATEMALA, Las Mercedes [♂] and Cerro Zunil, Pacific slope; COSTA RICA; PANAMA, Chiriqui.

One male and eight females seen, the two from Chiriqui almost wholly testaceous, and one of those from Cerro Zunil with the legs and elytra black. The tarsal claws of the male are formed as in *D. normale*, *perplexum*, and *luridum*. This is one of the largest known species of *Discodon*. The genital armature of the male, as seen with the internal sac evaginated, is very remarkable.

60. *Discodon albolateris*, n. sp.

Cantharis albolateris, Sturm, in litt.

Discodon sp.? (No. 2A), Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 285 (♀).

♀. Elongate, broad, opaque, finely pubescent; brownish-black, the anterior portion of the head and the prothorax (a broad median vitta excepted) pale flavous. Head broad; antennae rather slender, not reaching the middle of the elytra. Prothorax strongly transverse, wider than the base of the elytra, truncate at the apex (as seen from in front), explanate at the sides, the latter sinuate, rounded anteriorly, and gradually converging from near the base. Elytra extremely elongate, moderately explanate from a little below the shoulder.

Length (excl. head) $15\frac{1}{2}$, breadth $6\frac{1}{2}$ mm.

Hab. MEXICO (*Sturm, ex coll. Sallé*).

Gorham having quoted Sturm's MS. name for this species, a description is appended, though a single female

specimen only is known. *D. albolateris* is as large as the same sex of *D. lampyroides*, from Guatemala, etc., but has a broader prothorax, which is narrowed from near the base, etc. It can be placed near the latter for the present.

61. *Discodon normale*.

Discodon normale, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, pp. 82, 287, pl. 5, fig. 20 (♀).

Telephorus normalis, Gorh., loc. cit. pl. 6, fig. 20 (♂).

? *Discodon flavomarginatum*, Schaeff., Journ. N. York Ent. Soc. xvi, p. 65.

Black or piceous, the head on each side in front, and sometimes the epistoma also, the base of the mandibles, and the prothorax (a broad median vitta, or a triangular or cruciform patch on the disc, and sometimes a small spot on each side in ♂, excepted) flavous or rufo-testaceous. Antennae (♂) moderately long, rather stout, subserrate, tapering towards the tip, closely pilose; (♀) shorter, sparsely pilose. Eyes rather small in both sexes. Prothorax transverse, with a narrow, deep, straight incision on each side at about one-third from the base in ♂; wider in ♀, with the margins broadly explanate and feebly sinuate. Elytra at the base about as wide as the prothorax, in ♀ usually more or less explanate at the sides. Anterior tarsi dilated in ♂. Inner claw of anterior tarsi and outer claw of intermediate tarsi broadly lobed, and outer claw of posterior tarsi deeply cleft (the outer portion of the claw submembranous, and shorter and broader than the other), in ♂. Sixth ventral segment of ♂ very deeply, triangularly emarginate, the seventh long, and with the two lobes compressed and subangularly raised posteriorly, the median fissure becoming rather broadly open anteriorly, leaving a portion of the smooth, shining eighth segment exposed. (Fig. 23, profile view.)

Var. *a*. The sutural and outer margins of the elytra, and sometimes the apical third indeterminately, the margins and apex of the abdomen, and the femora and tibiae in some specimens, testaceous or flavous. ♂ ♀.

Discodon normale, var., Gorh., loc. cit. pp. 82, 287.

Discodon dubium, Gorh., loc. cit. p. 85 (part.).

Var. *β*. Prothorax, scutellum, and the anterior and intermediate femora, flavous or rufo-testaceous. ♀.

Discodon difficile, Gorh., loc. cit. p. 288 (*nec* p. 86) (specim., ♀, from Cuernavaca).

Var. γ . Elytra wholly testaceous, the black median vitta of the prothorax well developed. ♂ ♀.

♂. Eighth ventral segment long, raised and much narrowed towards the apex, and produced on each side of the medium notch into an oblique elongate-triangular plate (as seen in profile), which is somewhat hooked at the base above (lower portion of fig. 23); ninth segment long, narrowed towards the base and apex, the internal sac, as seen evaginated, armed with four pairs of long, curved hooks (the pair nearest the base longer and stouter than the others), the central tube very long and enclosing a slender, hooked flagellum (fig. 23a).

Hab. MEXICO, Morelos, Jalisco, Vera Cruz, Guerrero, Oaxaca, Mexico City, etc.; GUATEMALA, Totonicapam, Capetillo.

One of the commonest species of the genus in Mexico, the form with wholly black elytra being more abundant than the variety with flavous suture and outer margin (= *dubium*, Gorrh.). The var. β is represented by three females from Chilpancingo and one from Cuernavaca, and the var. γ by six specimens (♂ ♀), five of which are in the Hope collection at Oxford. Two species from Oaxaca were included by Gorham under *D. dubium*, his type and description applying to the var. α of *D. normale*. An interesting series connecting the various forms was obtained by Mr. H. H. Smith at Omilteme, in the mountains of Guerrero, females, as usual, predominating. The peculiar genital armature and the form of the intermediate tarsal claws of the male distinguish *D. normale* from most of its allies. The species is nearly related to *D. lampyroides*, Gorrh. Eleven males have been dissected, showing considerable variation in the development of the produced, raised, apical portions of the eighth ventral segment. *D. flavomarginatum*, Schaeff., from the Huachuca Mts., Arizona, seems to be a form of *D. normale*.

62. *Discodon perplexum*.

Discodon perplexum, Gorrh., Biol. Centr.-Am., Coleopt. iii, 2, p. 83 (♂) (*nec* p. 287).

♂. Broad, black, the sides of the head in front, the base of the mandibles, the prothorax (a rather narrow median vitta excepted), and the apical two segments or more of the abdomen, flavous or testaceous, the femora obscure testaceous. Antennae very long,

slender, subfiliform, closely pilose. Prothorax strongly transverse, with a narrow, deeply-cut, oblique notch on each side just before the base, the hind angles obtuse. Elytra long, at the base of the same width as the prothorax, broadly arcuato-explanate from a little below the shoulder. Sixth ventral segment deeply, triangularly emarginate; seventh segment long, the two lobes scarcely raised posteriorly, the median fissure somewhat open, leaving a portion of the eighth segment exposed. Inner claw of anterior tarsi and outer claw of middle tarsi broadly lobed; outer claw of posterior tarsi deeply cleft, the outer portion of the claw much shorter than the inner.

Var. ♀. Prothorax wholly testaceous, broadly explanate at the sides, arcuately narrowing forwards, the margins feebly sinuate.

Discodon difficile, Gorh., loc. cit. p. 288 (*nec* p. 86) (specim., ♀, from Yolos, Oaxaca).

Telephorus photurinus, Gorh., loc. cit. pl. 6, fig. 19 (♀).

♂. Eighth ventral segment simply cleft at the apex; ninth segment produced on each side into a long, dentiform process, two broader, compressed, abruptly-pointed hooks projecting from the internal sac and two spines visible between them (fig. 24, profile view).

Hab. MEXICO, Misantla in Vera Cruz [♂], Yolos in Oaxaca [♀].

Redescribed from Gorham's types—two males. The females he subsequently referred to *D. perplexum* are colour-varieties of his *D. luridum*, but his *D. difficile*, ♀, from Yolos, which has slender antennae, almost certainly belongs here. Differs from *D. normale* in the broadly explanate, posteriorly attenuate elytra; the longer, slender, subfiliform antennae; the more oblique, juxta-basal incisure of the prothorax; and in the genital armature.

63. *Discodon luridum*.

Discodon luridum, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 85.

Broad, black or piceous, the sides of the head in front, the base of the mandibles, the prothorax (a broad median vitta or triangular patch excepted), and the apex and sides of the abdomen flavous, the elytra uniformly brownish-ochraceous. Antennae (♂) moderately long, rather stout, subserrate, tapering outwards, closely pilose; (♀) shorter, sparsely pilose. Prothorax with a narrow, deep,

straight incision on each side at about one-third from the base in ♂; wider in ♀, with the margins broadly explanate and at most feebly sinuate. Elytra broadly arcuato-explanate from a little below the shoulder. Tarsi and sixth and seventh ventral segments of ♂ as in *D. normale*.

Var. *α*. Elytra nigro-fuscous, with the margin broadly flavous. ♂.

Discodon perplexum, var. ?, Gorh., loc. cit. p. 287.

Var. *β*. Elytra with the margin and suture ochraceous, the disc fuscous. ♀.

Var. *γ*. Elytra wholly, and sometimes the abdomen also, nigro-fuscous or black. ♂ ♀.

Discodon perplexum, var. ?, Gorh., loc. cit. p. 287.

♂. Eighth ventral segment raised and bilobed at the tip (fig. 25*a*), the lobes (seen in profile) oblique and triangular at the apex, and armed with a sharp tooth above (lower portion of fig. 25); ninth segment broad, the apices of the hooks enclosed within the internal sac visible (fig. 25).

Hab. MEXICO, Vera Cruz and Oaxaca.

The insect described by Gorham under the name *D. luridum* has been received in numbers from Juquila in Oaxaca, the var. *α* occurring at the same locality and at Playa Vicente in Vera Cruz; the var. *γ* has been found at Misantla in Vera Cruz, and there are three others (♂ ♀) in the Oxford Museum labelled "Mexico"; the var. *β* is represented by a single ♀ in the Oxford Museum. The variations in colour, therefore, correspond with those of *D. normale*, of which *D. luridum* is perhaps no more than a form with broadly explanate elytra, the genital armature of the male being very similar in the two insects. From *D. perplexum* the position of the prothoracic incision, the stouter and more tapering antennae, and the genital armature, sufficiently distinguish *D. luridum*, at least in the male sex.

64. *Discodon nigrifrons*, n. sp.

Telephorus nigrifrons, Chev., in litt.

Elongate, rather robust, thickly clothed with long, coarse, cinereous pubescence; nigro-piceous or black, the head from between the eyes to the apex (the black basal portion produced into a dentiform projection in the middle anteriorly), the base of the antennae, the prothorax (a subcordate spot on the disc excepted in two speci-

mens), the sutural and outer margins of the elytra, the coxae, trochanters, femora, and tibiae, and the abdomen in part, testaceous or rufo-testaceous. Antennae long and slender. Eyes small. Prothorax (♂) transverse, somewhat rounded at the sides, the latter angularly notched at some distance behind the middle, the hind angles obtuse; (♀) broader, the sides rounded anteriorly and bisinuate between the middle and the base. Elytra long, wider than the prothorax, subparallel in ♂, slightly dilated from a little below the shoulder in ♀. Inner claw of anterior tarsi, and outer claw of the other tarsi, lobed in ♂, the lobe on the posterior pair denticiform. Sixth ventral segment very deeply triangularly emarginate, and the seventh raised on each side of the median fissure towards the apex, in ♂.

Length (excl. head) 9–10, breadth 3–4 mm. (♂ ♀.)

Hab. MEXICO, Juquila in Oaxaca (*Sallé*).

One male and two females (one of the latter with the prothorax immaculate), left undetermined by Gorham. The form of the ♂ tarsal claws (except that the shorter portion of the outer posterior one is less acute) brings this species near *D. normale*, from all the varieties of which *D. nigrifrons* may be separated by the basally narrowed prothorax of the male, and the peculiarly marked head. The female is extremely like the same sex of certain varieties of *D. inconstans* and *D. rufipes*, but it has the prothorax differently shaped and the head otherwise coloured. The aedeagus has not been dissected, but the form of the cleft seventh ventral segment (♂) is very like that of *D. normale*.

PHOTINOMORPHA, n. gen.

Head short, vertical, completely invisible from above; antennae rather short, stout, serrate, joint 2 more than half the length of 3; prothorax semicircular, explanate laterally and anteriorly, without trace of marginal notch in either sex; elytra long, broadly dilated from a little below the humeri; seventh ventral segment divided down the middle in ♂; tarsi each with one claw broadly lobed at base in ♂, the penultimate joint a little longer than the third.

Type, *P. simulans*, n. sp.

The two species placed under the above generic name bear an extraordinary resemblance to various Lampyrids inhabiting the same region. They were at first included by me under *Polemius*, *P.* (*Discodon*) *serricornis* and *lugubris*, Gorh., being to some extent intermediate; but

in these latter the prothorax is more or less truncate in front (leaving a portion of the head exposed from above) and has a faint oblique notch towards the base, at least in ♂, and the second joint of the antennae is small. *P. dilaticornis*, of which the ♀ only is known, was placed doubtfully by Gorham as a variety of *P. serricornis*; it can be included under *Photinomorpha* for the present. *Photurocantharis*, Pic,* based upon four or five species from Tropical South America, has the prothorax similarly produced anteriorly; but it differs from the present genus in having the head subrostrate, and the penultimate tarsal joint so deeply cleft as to appear strongly and narrowly bilobed. These southern insects were supposed by Pic to belong to the Lampyrid-genus *Photuris* and were sent by him to Olivier as such for determination.

1. *Photinomorpha simulans*, n. sp. (Plate III, figs. 5, ♂; 6, ♀, var.)

Broad, opaque, finely pubescent; black, the prothorax (a large subtriangular or transverse patch on the disc excepted), the base of the mandibles, the explanate margins of the elytra, and the last ventral segment wholly in ♂ and at the sides in ♀, flavous. Antennae stout, serrate, gradually tapering towards the tip, short in ♀, longer in ♂, joint 2 stout, rather more than one-half the length of 3, 3 a little shorter than 4. Prothorax transverse, semicircular, broadly explanate laterally, the margins very feebly sinuate anteriorly and before the base, without trace of notch in ♂. Elytra elongate, at the base parallel and narrower than the prothorax, the margins broadly arcuato-explanate from a little below the humeri, the disc obsoletely costulate. ♂ ♀.

Var. The elytra and abdomen wholly, and sometimes the explanate portions of the prothorax also in part or almost entirely, black. ♀.

♂. Eighth ventral segment broad, short, carinate down the middle posteriorly, feebly emarginate and subcrenulate at the apex, the short dorsal portion of the same segment deeply cleft and armed at the apex on each side with two short, curved teeth; on either side of the partially evaginated internal sac a very long, stout hook is extruded, and the apices of several shorter hooks are also visible beyond the tip of the ninth segment. (Figs. 26, 26a.)

Length 13-16, breadth 6-7½ mm. (♂ ♀.)

* *Mélanges exot.-entom.*, fasc. x, p. 3 (Oct. 1914).

Hab. MEXICO, Omilteme in Guerrero 8000 feet (*H. H. Smith*).

Twelve specimens, all females but one, four (σ^7 ♀) belonging to the form selected as typical, and two of the others having the prothorax in great part or almost wholly black. The flavo-marginate form closely resembles *Photinus nigradorsis*, Gorb., from Oaxaca, except that the dilatation of the elytral margin starts from below, instead of at the shoulder; the dark form was sent with a similarly-coloured *Photinus* from the same locality.

2. *Photinomorpha dilaticornis*, n. sp. (Plate III, fig. 7, ♀ .)

Discodon serricorne, var. ?, Gorb. Biol. Centr.-Am., Coleopt. iii, 2, p. 288 (♀).

♀ . Broad, opaque, finely pubescent; black, the prothorax orange, with or without a dark patch on the disc, the mandibles rufescent. Head not visible from above, rather broad, the eyes not prominent; antennae short, stout, subserrate, gradually narrowed towards the tip, joint 2 stout, fully one-half the length of 3. Prothorax transverse, ample, semicircular, truncate at the base, broadly explanate at the sides, the hind angles prominent, obtuse. Elytra long, flattened and obsoletely costulate on the disc, at the base parallel and not wider than the prothorax, abruptly and broadly explanate from a little below the humeri.

Length $11\frac{3}{4}$ – $12\frac{1}{2}$, breadth 5 – $5\frac{1}{2}$ mm.

Hab. MEXICO, Parada in Oaxaca (*Sallé*), Oaxaca (*Mus. Brit.*).

Two females, distinguishable from the same sex of *Polemium* (*Discodon*) *serricornis*, Gorb., by the wholly black head, the shorter and less tapering antennae, with larger and stouter second joint; and the broader prothorax, with more regularly rounded, strongly explanate margins, and rather prominent hind angles. The specimen in the British Museum was acquired in 1858.

POLEMIUS.

Polemium, Leconte, Proc. Acad. Phil. v, p. 338 (1851), and Trans. Am. Ent. Soc. ix, p. 55 (1881); Lacordaire, Gen. Coleopt. iv, p. 359 (1857); Schaeffer, Journ. N. York Ent. Soc. xvi, p. 61 (1908).

Leconte referred three N. American species to this genus, *Cantharis laticornis*, Say (= *Telephorus dubius*,

Melsh.), being taken as the type, and others from Arizona have since been added by Fall and Schaeffer. Its essential characters, ♂, are the simply incised lateral margins of the prothorax (the notch sometimes wanting), the undivided tarsal claws, and the cleft seventh ventral segment. The type, like that of *Silis*, has stout, serrate antennae and small eyes. *Polemium laticornis* appears to have been unknown to Gorham, but there are males of it from Texas in the British Museum and others have been sent me by Mr. Fall. The genus as here understood includes various forms described under *Discodon* and *Silis* by Gorham; *P. basalis*, Waterh., from Borneo, must belong elsewhere. A Miocene species from Florissant (*P. crassicornis*) has recently been named by Wickham.

The Central American species may be grouped by their ♂ characters thus* :—

- I. Prothorax with or without a shallow notch on each side near the base, semicircular, or with the margins feebly sinuate, more or less truncate in front, leaving a portion of the head exposed from above; antennae serrate; tarsi each with one claw broadly lobed at base: species Lampyri-form *Species 1-5.*
- II. Prothorax with a conspicuous, rarely sub-obsolete, notch on each side, the margins usually more or less angulate, lamellate, or subdentate in front of the incision; anterior tarsi and sometimes the others also, with one of the claws lobed or dilated at base: species Lampyriform or Telephoriform.
- a*¹. Antennae stout, serrate *Species 6.*
- b*¹. Antennae more slender, serrate in some of the species *Species 7-35.*
- Species of doubtful position, females only known *Species 36, 37.*

1. *Polemium serricornis*.

Discodon serricorne, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 288, pl. 6, fig. 18 (♀) (excl. var.).

* Females only known of species 10 and 17.

Broad, opaque, black, the anterior portion of the head, the base of the mandibles, the prothorax (a patch on the disc excepted), and sometimes the outer limb of the elytra indeterminately, flavous or reddish-yellow. Head almost invisible from above, eyes somewhat prominent in ♂; antennae serrate, rapidly tapering towards the tip, short in ♀, longer in ♂, joints 3-6 considerably widened in both sexes. Prothorax strongly transverse, semicircular, truncate in front, broadly explanate in both sexes; the sides feebly obliquely notched near the base in ♂ and slightly sinuate in ♀. Elytra in ♂ narrower than, and in ♀ as broad as, the prothorax, broadly explanate from a little below the shoulder. Inner claw of anterior tarsi, and outer claw of the other tarsi, broadly lobed in ♂.

♂. Ninth ventral segment rather convex, narrowed towards the apex, the two spines projecting from the internal sac strongly hooked at the tip.

Hab. MEXICO, Morelos, Oaxaca.

This species mimics *Photuris cyathigera*, Gorh., and other Lampyrids. One male and two females seen. It is distinguishable by the semicircular prothorax, which is feebly notched just before the base in the male, the flavous anterior portion of the head, the broadly explanate elytra, and the stout, serrate, rapidly tapering antennae. The two spines projecting a little beyond the tip of the ninth ventral segment correspond to those mentioned under *P. lugubris* as projecting at right angles from the evaginated internal sac, but they are more hooked at the apex. The variety (?) from Parada described by Gorham (loc. cit.) is referred to a different species, *Photinomorpha dilaticornis*.

2. *Polemium lugubris*.

Discodon lugubre, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 85.

Broad, opaque, black, the anterior portion of the head, the base of the mandibles, and the flanks of the prothorax yellow, the disc of the latter sometimes with two faint reddish marks. Eyes not prominent. Antennae subserrate, stout, rapidly tapering towards the tip, short in ♀, longer in ♂, joint 2 small. Prothorax large, strongly transverse, rugulose, broadly explanate in both sexes; the sides rounded anteriorly, deeply, obliquely notched a little before the base in ♂, and slightly sinuate in ♀. Elytra about as wide as the prothorax at the base, broadly explanate from a little below the shoulder. Inner claw of anterior tarsi, and outer claw of the other tarsi, broadly lobed in ♂.

Var.? Head wholly black; prothorax smoother and more abruptly explanate; elytra distinctly costate. ♀.

♂. Eighth ventral segment cleft and bilobed at the tip; ninth segment polished, rather convex, narrowed towards the apex, the internal sac (as seen evaginated) armed with several small and four long spines—one projecting at right angles on each side, stout, hooked at the tip, one on the ventral aspect directed vertically, cleft at the apex, and another on the dorsal aspect, pointed at the tip.

Hab. MEXICO, Morelos and Durango.

There are four specimens of this species in the "Biologia" collection, one of which (♀), from Las Peras in Oaxaca, with the head wholly black, may belong to a different species. The spines projecting from the evaginated internal sac of the aedeagus are long and stout, and another pair of stout spines are visible beneath the eighth ventral segment after the ninth segment has been extracted, corresponding to the long hooks present in *Photinomorpha simulans*. Gorham describes the outer hind tarsal claw of the male as "vix fissis," whereas it has a rounded lobe similar to that on the corresponding claw of the intermediate and anterior tarsi.

3. *Polemius integer*, n. sp.

Moderately elongate, rather broad, dull, finely pubescent; black, the sides of the head in front, the base of the mandibles, and the sides of the prothorax broadly (leaving a broad, black, posteriorly dilated vitta or triangular patch), yellow. Antennae (♂) moderately long, subserrate, tapering outwards, with joint 3 shorter than 4; (♀) much stouter and shorter, with joints 3 and 4 equal in length. Eyes rather small in both sexes. Prothorax (♂) strongly transverse, subtruncate in front, gradually narrowing from the base, the margins broadly explanate, entire, plicate at about the basal fourth above; (♀) wider and with the sides more rounded. Elytra moderately long, about as wide at the base as the prothorax, more or less explanate from a little below the shoulder, feebly costulate on the disc. Inner claw of anterior tarsi, and outer claw of the other tarsi, broadly lobed in ♂.

♂. Eighth ventral segment long, acuminate, carinate down the middle, feebly cleft at the tip; ninth segment oblong, rounded at the apex, a stout, feebly curved, flattened tube partly extruded (fig. 27, dorsal aspect).

Length (excl. head) 8–10½, breadth 3½–5 mm. (♂ ♀.)

Hab. MEXICO, Omilteme and Xucumanatlan in Guerrero (*H. H. Smith*: ♂ ♀), Oaxaca (*Sallé*: ♂).

Described from one male and six females from Guerrero. The two males from Oaxaca, left unnamed by Gorham, are smaller and narrower, and have more slender antennae; but there can be little doubt that they belong to the same species, the genital armature being similar. A Lampyri-form insect, with the lateral margins of the prothorax entire in the male.

4. *Polemium nigrolimbatus*, n. sp.

Discodon cleroides, var., Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 287 (♂).

Rather broad, dull, clothed with fine brownish or cinereous pubescence; black, the base of the mandibles, and a rather broad, anteriorly widened, oblique, submarginal stripe on each side of the prothorax (the two stripes usually connected along the apical margin) flavous. Eyes not prominent. Antennae subserrate, rather stout, tapering towards the tip, short in ♀, longer in ♂. Prothorax ample, as broad as or broader than the base of the elytra, subtruncate in front, broadly explanate laterally; the sides gradually, arcuately converging forwards from near the base, at most very feebly sinuate, without trace of notch in ♂. Elytra more or less explanate from a short distance below the base, coriaceous, obsoletely costulate. Inner claw of anterior and outer claw of the other tarsi lobed in ♂.

♂. Ninth ventral segment oblong, gradually narrowed towards the apex, the extruded flagellum acuminate and simply curved. (Fig. 28).

Length (excl. head) $7\frac{1}{2}$ –10, breadth 3 – $4\frac{1}{2}$ mm. (♂ ♀)

Hab. MEXICO (*Truqui*, *Sallé*; *Mus. Oxon.*), Mexico City (*Höge*, *H. H. Smith*), Toluca (*Sallé*).

Apparently not rare in the vicinity of the city of Mexico, whence six examples have been received. This species and *P. nigromarginatus* differ from *Discodon cleroides* in having the prothorax unnotched and somewhat rounded at the sides in the male, and the tarsal claws otherwise formed in that sex, the head black to the anterior margin, and the prothorax relatively very broad in both sexes. The less rounded sides of the prothorax and the broader yellow submarginal stripes separate *P. nigrolimbatus* from *P. nigromarginatus*.

5. *Polemium nigromarginatus*, n. sp. (Plate III, fig. 8, ♂.)

Discodon cleroides, Gorb., Biol. Centr.-Am., Coleopt. iii, 2, p. 287 (♀) (*nec* p. 84) (excl. var.).

Rather broad, dull, clothed with fine blackish pubescence; deep black, with the base of the mandibles, and a sharply defined sinuate submarginal stripe on each side of the prothorax (leaving a very large triangular patch on the disc and the outer margins black), pale flavous. Eyes somewhat prominent in ♂. Antennae subserrate and tapering towards the tip in ♀, a little longer and with joints 3-7 less widened in ♂. Prothorax broad, transverse, widely explanate laterally, the margins somewhat rounded, feebly sinuate, and without trace of notch in ♂, the hind angles obtuse. Elytra a little wider than the prothorax, very feebly explanate in ♀, coriaceous, subcostulate. Inner claw of anterior and outer claw of the other tarsi broadly lobed in ♂.

♂. Eighth ventral segment broad, sharply carinate down the middle posteriorly; ninth segment rather broad, parallel-sided, abruptly, obliquely narrowed towards the apex, the extruded flagellum bent and sharply acuminate (fig. 29).

Length (excl. head) $6\frac{1}{4}$ -9, breadth $2\frac{1}{4}$ - $3\frac{1}{2}$ mm.

Hab. MEXICO, Ciudad in Durango, 8100 ft. (*Forrer*: ♀; *Höge*: ♂ ♀).

The three females from Durango referred by Gorham in his "Supplement" to *Discodon cleroides* belong to the present species, of which a long series was subsequently received from Höge from the same locality. The females of the two insects, it is true, are very similar, that of the present species being recognisable by the wholly black head, the rounded sides of the prothorax, and the less dilated margins of the elytra. The males have a very differently shaped prothorax, and the tarsal claws otherwise formed.

6. *Polemium spissicornis*, n. sp. (Plate VIII, fig. 59, prothorax, ♂.)

Moderately elongate, rather broad, dull, finely pubescent; black, the base of the mandibles and the prothorax (a broad patch on the disc excepted) testaceous or flavo-testaceous. Head short; antennae serrate, stout, about reaching the basal third of the elytra, slightly tapering towards the tip. Prothorax (♂) very short, broad, sulcate down the middle posteriorly, the lateral margins reflexed, and narrowly, deeply, obliquely excised towards the base, appearing

dentate in front of the excision, and arcuately converging thence to the apex, the hind angles acute; (♀) broader, more rounded at the sides, the latter bisinuate towards the base. Elytra moderately long, much wider than the prothorax, somewhat dilated at the sides in ♀, costulate and rugosely sculptured. Inner claw of anterior tarsi, and outer claw of the other tarsi, lobed at base.

Length (excl. head) $5\frac{1}{3}$ -7, breadth $2-2\frac{4}{5}$ mm. (♂ ♀).

Hab. MEXICO (*Truqui*, in *Mus. Brit.*; *Coffin*, in *Mus. Oxon.*).

Two pairs. This insect is very like the N.-American *Polemium laticornis* (Say), but has shorter and stouter antennae, a shorter and more equally dilated prothorax, and the margins of the latter deeply obliquely excised near the base in the male, much as in *P. (Discodon) lugubris*, Gorh. *P. spissicornis* has the facies of a small Lampyrid. The antennae scarcely differ in form in the two sexes.

7. *Polemium difficile*.

Discodon difficile, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 86 (*nec* p. 288, and fig. of *T. photurinus*, pl. 6, fig. 19, ♀) (Guanajuato examples only, ♂ ♀).

Polemium difficile, Schaeff., Journ. N. York Ent. Soc. xvi, p. 61.

Comparatively short and broad, dull, finely pubescent; black, the anterior portion of the head, base of mandibles, basal joint of antennae externally, and prothorax flavous or testaceous. Head broad; eyes moderately large and prominent in ♂, smaller in ♀. Antennae rather short, comparatively stout, subserrate, tapering outwards. Prothorax very broad in both sexes, subtruncate at the apex (as seen from in front), rounded at the sides anteriorly; the margins narrowly notched towards the base in ♂, and abruptly emarginate at the same place in ♀. Elytra rather short, of the same width as the prothorax at the base, blunt at the tip, somewhat or moderately explanate at the sides from a little below the humeri, the sculpture rather coarse. Inner claw of anterior tarsi, and outer claw of other tarsi, broadly lobed in ♂.

Var. *α*. Prothorax with a black anteriorly dilated median vitta. ♂ ♀.

Discodon triste, Gorh., loc. cit. p. 287 (part.) (Ventanas specimens, ♀).

Var. *β*. Anterior half of head, basal joint of antennae, scutellum,

sutural and outer margins of elytra narrowly, coxae, trochanters, and femora in part or entirely, and base of tibiae, flavous or testaceous. ♀.

♂. Eighth ventral segment long, oval, carinate down the middle, rounded, cleft and upturned at the tip; ninth segment narrow, two pairs of stout spines projecting from the internal sac. (Fig. 30.)

Length (excl. head) $7\frac{1}{2}$ – $9\frac{1}{2}$, breadth 3 – $4\frac{1}{2}$ mm. (♂ ♀.)

Hab. MEXICO (*Truqui*), Ventanas in Durango (*Forrer*), Durango City, Iguala and Chilpancingo in Guerrero (*Höge*), Jalisco (*coll. Fry*: ♂ ♀), Guanajuato (*Sallé*: types, ♂ ♀).

Redescribed from the types (a pair from Guanajuato), a similar pair from Jalisco in Fry's collection, and a female from Durango City; the other specimens (♀) referred to it by Gorham, one of which was figured by him under the name *Telephorus photurinus* and quoted under *Discodon difficile* (p. 288), belong elsewhere. The var. *α* is represented by six examples (from Ventanas and Chilpancingo), and the var. *β* by a single female from Iguala. A comparatively short form, with the prothorax broad and very similarly shaped in the two sexes, the elytra more or less explanate at the sides. The var. *α* may have to be separated when more males are available for examination. The uncleft ♂ tarsal claws separate this and the next two species from *Discodon*.

8. *Polemium photinoides*.

Discodon photinoides, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 84 (*nec* p. 288).

Telephorus photinoides, Gorh., loc. cit. pl. 5, fig. 19 (♀).

Rather narrow (♂), broader (♀), moderately shining, clothed with fine brownish pubescence; nigro-fuscous or black, the anterior portion of the head, the base of the mandibles, the prothorax (a triangular patch on the disc excepted), and the sutural and outer margins of the elytra flavous, and the humeri and knees often testaceous. Eyes large in ♂. Antennae rather stout, serrate, tapering outwards, long in ♂, shorter in ♀. Prothorax strongly transverse; subquadrate and with a deep, narrow, oblique notch on each side towards the base in ♂, broader and with the more rounded sides deeply sinuate at about the basal third in ♀. Elytra moderately elongate, as wide as or wider than the prothorax at the base, gradually explanate at the sides from a little below the shoulder. Inner claw of anterior tarsi broadly, and outer claw of

the other tarsi feebly, lobed in ♂. Anterior tarsi rather broad in both sexes.

♂. Eighth ventral segment oblong, rounded and notched in the middle at the tip, carinate; ninth segment produced at the apex, an extremely elongate, slender flagellum and a stout curved hook projecting from the internal sac (fig. 31).

Hab. GUATEMALA (*Mus. Brit.*), San Gerónimo, Dueñas, Capetillo, Quiché Mts.

The specimens seen of this species, including a pair still "in copula" from San Gerónimo and two females acquired by the British Museum in 1855, are all from Guatemala, those from Chiriqui added by Gorham in his "Supplement" belonging to species with the tarsal claws of the males differently formed, etc. The two males dissected have the genital armature very different from that of *Discodon chiriquense* and the other species confused by Gorham under *P. photinoides*.

9. *Polemius flaccidus*.

Discodon flaccidum, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 88; Pic, Mélanges exot.-entom., fasc. ii, p. 14 (1912).

Elongate, narrow, moderately shining, finely pubescent; piceous, the sides of the head in front, the base of the mandibles, the basal joint of the antennae externally, the prothorax (a spot on the disc or an anteriorly evanescent median vitta excepted), the sutural and outer margins of the elytra, and the legs in great part, stramineous or testaceous. Eyes very large and prominent in ♂, small in ♀. Antennae moderately long, rather slender, shorter in ♀. Prothorax (♂) subquadrate, the margins with a narrow, deep, transverse notch at about the middle, the hind angles sharp; (♀) broader and more transverse, narrowing from near the base, constricted at the middle (the margins thus appearing strongly sinuate), the hind angles obtuse. Elytra long, subparallel, broader than the prothorax in ♀ and of about the same width in ♂. Inner claw of anterior tarsi somewhat broadly, and outer claw of the other tarsi feebly, lobed in ♂.

♂. Eighth ventral segment narrowing outwards, emarginate in the middle at the apex, the tip of the flagellum exposed.

Hab. GUATEMALA, Alta Vera Paz.

Gorham was in some doubt as to the identification of the sexes of this species. It has been redescribed from two

males and three females. The prothorax of the female is widened posteriorly, and in the male the lateral notch is sharply cut; the eyes, too, in the last-mentioned sex are much enlarged.

10. *Polemium fleximargo*, n. sp. (Plate III, fig. 9, ♀.)

♀. Elongate, dull, finely pubescent; nigro-fuscous, the sides of the head in front, the base of the mandibles, the prothorax (an elongate-triangular patch on the disc excepted), and the humeri and outer margins of the elytra flavous, the legs fusco-testaceous with the tarsi blackish. Antennae moderately long, subserrate, rather stout, slightly tapering towards the tip. Prothorax transverse, arcuate in front; the sides rounded posteriorly and rapidly, sinuously converging thence to the apex, the abruptly explanate margin becoming much narrower anteriorly. Elytra long, not wider than the prothorax at the base, distinctly costulate on the disc and arcuato-explanate at the sides just below the humeri, the dilated margin rapidly narrowed thence to the apex, the basal portion of the epipleura broad and somewhat thickened.

Length (excl. head) 7-8½, breadth 2¼-3 mm.

Hab. PANAMA, Volcan de Chiriqui (*Champion*).

Two females, left unnamed by Gorham. This species has the prothorax shaped as in the corresponding sex of *P. (Discodon) flaccidus*, Gorh., differing from it in the sinuato-explanate elytral margin and the anteriorly widened epipleura. *P. fleximargo* can be placed near *P. photinoides* and *P. flaccidus* for the present, these latter having one of the claws of each tarsus simply lobed at the base in the male.

11. *Polemium tristieculus*, n. sp.

Discodon triste, var., Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 82.

Narrow, black, the mandibles testaceous, the sides of the prothorax (leaving a large cruciform black patch on the disc) yellow or reddish-yellow; clothed with rather long blackish pubescence. Antennae comparatively short and stout, serrate, slightly tapering towards the tip. Prothorax transverse, in ♂ subquadrate and with a narrow transverse notch on each side at about one-fourth from the base, in ♀ with the sides more rounded and deeply sinuate behind the middle. Elytra a little wider than the prothorax at the base,

subparallel or very feebly dilated at the sides. Inner claw of anterior tarsi, and outer claw of the other tarsi, broadly lobed in ♂.

♂. Ninth ventral segment oblong; the partially evaginated internal sac disclosing the tips of several pairs of spines and that of a central flagellum, and dilated into a sharp tooth on each side at the base. (Figs. 32, 32a.)

Length (excl. head) $6\frac{1}{2}$ -7, breadth 2-2 $\frac{3}{4}$ mm. (♂ ♀.)

Hab. GUATEMALA (*Mus. Brit.*), Quiché Mts. and the slopes of the mountains above Dueñas (*Champion*).

Six males and one female. Very like *Discodon melancholicum* (= *triste*), and with a similar large cruciform black patch on the disc of the prothorax, but differing from that species in the shorter and stouter antennae in both sexes; the male with one claw of each tarsus broadly lobed at the base, and the narrow lateral notch of the prothorax placed nearer the hind angle; the female with the sides of the prothorax deeply sinuate behind the middle. *D. nigropilosum* is also very like the present species, but it has a differently-shaped prothorax, cleft ♂ tarsal claws, etc. Two males of *P. tristiculus* have been dissected, one having the genital armature partly exposed.

12. *Polemium lineatocollis*, n. sp.

Moderately elongate, black, the base of the mandibles, and the sides of the prothorax broadly (leaving a sharply-defined broad black median vitta), yellow or reddish-yellow; clothed with fine greyish-brown pubescence. Antennae rather stout, serrate, moderately long, slightly tapering towards the tip, sparsely pubescent in both sexes. Prothorax transverse, subquadrate; in ♂ with an oblique notch on each side just behind the middle, in ♀ with the sides distinctly sinuato-emarginate at the middle. Elytra slightly wider than the prothorax at the base, moderately long, not or very feebly (♀) explanate at the sides. Inner claw of anterior tarsi broadly, and outer claw of the other tarsi more feebly, lobed in ♂.

♂. Eighth ventral segment feebly cleft, and the ninth rounded, at the tip, a very elongate, extremely slender, straight flagellum projecting from the internal sac.

Length (excl. head) $5\frac{1}{2}$ -7, breadth 2-2 $\frac{3}{4}$ mm. (♂ ♀.)

Hab. MEXICO (*Truqui*), Amula, Xucumanatlan, Chilpancingo, and Tepetlapa in Guerrero (*H. H. Smith*), Acapulco (*Höge*), Oaxaca (*Mus. Brit.*, *Sallé*), Etla (*Sallé*).

Sent in plenty from various places in Guerrero and
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sparingly from Oaxaca. Extremely like *Discodon melancholicum* (= *triste*), but with the outer claw of the intermediate and posterior tarsi of the male lobed at the base (instead of cleft), the median vitta of the prothorax not dilated into a cruciform patch, the margins usually distinctly sinuate in the female, the antennae of the male shorter, and sparsely pubescent as in the female. Three males dissected, one only showing the slender flagellum.

13. *Polemius bivittatus*. (Plate III, fig. 10, ♀, var. β .)

Discodon bivittatum, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 87.

Polemius bivittatus, Schaeff., Journ. N. York Ent. Soc. xvi, p. 61.

Elongate, dull (shining, when immature), finely pubescent; nigro-piceous or fuscous, the anterior portion at least of the head, the basal joint of the antennae in some specimens, the prothorax (two black sinuous vittae or spots on the disc excepted) and scutellum, the suture and outer margin of the elytra, the coxae, trochanters, and femora in some examples, and the abdomen in part or entirely, testaceous. Eyes rather small, a little larger in ♂. Antennae very long, slender and subfiliform in ♀, still longer, subserrate, and closely pilose in ♂. Prothorax (♂) transverse, arcuate in front, binodose on the disc posteriorly, the margins explanate and reflexed, at most feebly notched or sinuate at about the middle; (♀) broader, subtruncate at the apex, the margins more or less rounded. Elytra subparallel, wider than the prothorax, rather finely sculptured. Inner claw of anterior tarsi, and outer claw of the other tarsi, broadly lobed at base in ♂.

Var. α . Prothoracic vittae united into a large, laterally emarginate black patch; legs black. ♀.

Var. β . Elytra flavous, with the sutural and outer margins, and a narrow oblique stripe extending down the disc from the shoulder to very near the apex, black; femora testaceous. ♀. (Fig. 10.)

Var. γ . Elytra and femora testaceous. ♂.

♂. Eighth ventral segment shortly trilobed at the apex; ninth segment rather short, oval, subtruncate, the tips of two pairs of stout hooks and that of a central flagellum visible (fig. 33).

Length (excl. head) 8-12½, breadth 2¾-5 mm. (♂ ♀.)

Hab. MEXICO, Vera Cruz, Guerrero (Chilpancingo and Omilteme), Oaxaca; GUATEMALA, Quiché Mts., Calderas (*Champion*), Capetillo (*Rodriguez*).

This insect varies in colour according to the amount of development of the flavous or black portions of the surface, some examples having the sterna, abdomen, antennae, and legs almost entirely pale. Immature specimens, too, are more shining than the others. The var. *a* was included by Gorham under *Discodon normale*. The other forms have all been found at Chilpancingo or Omilteme. The prothoracic notch is sometimes wanting in the males. *P. bivittatus* is mainly recognisable by the bivittate prothorax and the uncleft ♂ tarsal claws. A long series from Guerrero and Oaxaca has been examined. Two males dissected.

14. *Polemium fuscovittatus*, n. sp.

Discodon marginatum, Gorb., Biol. Centr.-Am., Coleopt. iii 2, p. 286 (*nec* p. 80).

Moderately elongate, shining, finely pubescent; testaceous, the eyes, the basal half of the head, and the abdomen in part infusate or black in some examples, the prothorax rarely with a small transverse dark mark on the disc, the elytra each with a broad fuscous vitta of variable length on the disc, sometimes interrupted or constricted below the base and always reaching to near the apex. Eyes large and prominent in ♂, smaller in ♀. Antennae long and slender. Prothorax (♂) narrow, broader than long, binodose on the disc behind, the margins narrowly reflexed and notched at about one-third from the base, the hind angles obtuse; (♀) broader, narrowing from the basal third, the margins bisinuate. Elytra wider than the prothorax, subparallel. Inner claw of anterior tarsi, and outer claw of the other tarsi, angularly dilated at base.

♂. Eighth ventral segment broad, the short dorsal portions of the same segment hooked at the tip; ninth segment oblong; two curved spines visible within the internal sac, and two long, stout truncated hooks projecting from beneath them. (Figs. 34, 34a.)

Length (excl. head) $7-7\frac{3}{4}$, breadth $2\frac{1}{4}-3$ mm. (♂ ♀.)

Hab. MEXICO, Playa Vicente and Jalapa in Vera Cruz.

Four males and two females. Less elongate and more shining than the Guatemalan *Discodon marginatum*, Gorb., the prothorax of the male not hollowed at the sides behind the middle, and with a definite notch, the tarsal claws not cleft in this sex, the genital armature different.

15. *Polemium maculifrons*, n. sp.

Moderately elongate, shining, finely pubescent; rufo-testaceous, the eyes, a spot on the vertex, the antennae (the basal joint excepted), an interrupted transverse streak on the disc of the prothorax towards the apex in ♂, the base and the apical half of the elytra (the sutural and outer margins excepted) indeterminately in ♂, or their entire surface (the margins excepted) in ♀, the tarsi in part or entirely and sometimes the knees also, and the under surface in part, fuscous or black. Eyes small. Antennae long and slender. Prothorax (♂) transverse, binodose on the disc towards the base, the sides strongly reflexed, somewhat rounded, and angularly notched at about the basal fourth, the hind angles obliterated; (♀) broader and more transverse, narrowing from near the base, the margins sinuate at the middle and before the obtuse hind angles, the space between the callosities sharply carinate in one specimen. Elytra long, much wider than the prothorax, subparallel, finely punctate and distinctly costulate. Inner claw of anterior tarsi, and outer claw of the other tarsi, lobed at base in ♂.

Length (excl. head) 7-8½, breadth 2½-3½ mm. (♂ ♀.)

Hab. MEXICO, Real del Monte [♂ type] and Zacualtipan [♀], both in Hidalgo (*Höge*).

One male and two females, the latter having the elytra entirely (the sutural and outer margins excepted) black. Near *P. (Discodon) bivittatus*, Gorb., but with the lateral notch of the prothorax of the male placed nearer the base and the hind angles obliterated; the prothorax in the female narrowed from near the base and with the margins more sinuate, in this respect approaching the same sex of *Discodon erosum*, Gorb. The sexes of *P. maculifrons* are so dissimilar that they might be mistaken for different species. The elytral sculpture is fine, as in *P. bivittatus*.

16. *Polemium breviusculus*, n. sp.

Comparatively short and broad, finely cinereo-pubescent, shining; black, the anterior portion of the head, the prothorax (except two oval spots on the disc, which are confluent in ♂), the scutellum, coxae, and trochanters, the femora to near the tip, base of the tibiae, and the abdomen in part, rufo-testaceous. Head broad; eyes small; antennae slender, moderately long. Prothorax (♂) strongly transverse, rounded at the sides, the latter strongly reflexed and with a deeply-cut angular notch at the middle, the hind angles

obliterated; (♀) broader, the sides sinuate just beyond the middle. Elytra broader than the prothorax, comparatively short, subparallel in ♂, slightly explanate from a little below the shoulder in ♀, roughly punctate. Inner claw of anterior tarsi and outer claw of intermediate tarsi with an angular lobe at base in ♂.

♂. Ventral segment 6 feebly emarginate in the middle behind, 7 cleft and comparatively short, 9 short, broadly produced in the centre at the apex, a stout hook visible on either side of it.

Length (excl. head) 6-7½, breadth 2½-3 mm. (♂ ♀.)

Hab. MEXICO, Ciudad in Durango (*Höge*).

One pair. A comparatively short, broad form, with the prothorax rounded at the sides behind, the lateral notch in the male deep, the outer posterior tarsal claw almost simple in this sex. In the unique male (after the genitalia have been extracted) an extremely long, slender, curved rod is visible in the fissure of the seventh ventral segment, arising from beneath the apical margin of the sixth, its apex being a little thickened and set with several setae. The prothorax of the ♂ is notched as in *P. binotatus*, Fall, but it is more transverse, and more rounded at the sides posteriorly.

17. *Polemium bimaculatus*, n. sp.

♀. Comparatively short and broad, shining, cinereo-pubescent; black, the anterior portion of the head, joints 1-3 of the antennae and the base of each of the following joints, the prothorax (two oblong streaks on the disc excepted) and scutellum, the sutural and outer margins of the elytra, the coxae and trochanters, the anterior femora and tibiae, and the bases or more of the other femora and tibiae, and the abdomen in part, flavous or testaceous. Head broad; eyes small; antennae rather short, slender. Prothorax strongly transverse, the sides scarcely reflexed, rounded anteriorly, and constricted just before the base, the hind angles obtuse. Elytra comparatively short, a little wider than the prothorax, feebly widened from below the shoulders, roughly punctate. Legs rather stout.

Length (excl. head) 6-6½, breadth 2½-2½ mm.

Hab. MEXICO, Chilpancingo in Guerrero (*H. H. Smith*: type), Ventanas in Durango (*Höge*).

Two females, the one from Durango somewhat immature and with the antennae entirely testaceous. This species comes near *P. breviusculus*, but the shape of the prothorax (♀) is so different in the two forms that it is impossible to

treat *P. bimaculatus* as a colour variety of the former. *P. binotatus*, Fall, from the Chiricahua Mts., S. Arizona, a male of which has been sent me by its describer, is an allied form with wholly black, less rugose, more shining elytra, uniformly testaceous femora, etc. *P. arizonensis*, Schaeff., has the antennal joints 3-5 shorter and wider than in *P. binotatus*, the prothorax immaculate, etc.

18. *Polemium megalophthalmus*, n. sp. (Plate III, fig. 11, ♂.)

Elongate, narrow, shining, cinereo-pubescent; black or piceous, the base of the mandibles, the anterior portion of the head wholly (♂) or at the sides (♀), the prothorax and scutellum, the abdomen in part, and the base of the femora in ♂, testaceous. Head together with the eyes very much broader than the prothorax in ♂, of about the same width in ♀, the eyes enormously developed in ♂, small in ♀; antennae serrate, in ♂ longer than the entire body, in ♀ very much shorter. Prothorax (♂) almost smooth, nearly as long as broad, narrow, arcuate in front, the margins narrowly reflexed, and obliquely compressed and feebly incised at about the basal third, the hind angles subrectangular; (♀) transverse, less rounded in front, the margins shallowly notched at the basal third. Elytra long, parallel, wider than the prothorax, rugosely sculptured and feebly costulate. Inner claw of anterior tarsi, and outer claw of the other tarsi, lobed at base in ♂.

♂. Ninth ventral segment truncated at the apex, the corresponding dorsal portion of the same segment narrower and also truncate; two pairs of long, stout hooks projecting from the internal sac. (Fig. 35.)

Length (excl. head) 6-7, breadth 2-2½ mm. (♂ ♀.)

Hab. MEXICO, Ventanas in Durango (*Höge*).

Five males and four females. This species is not unlike one of the varieties of *Discodon inconstans*, except that it is smaller and very much narrower. The male has enormously developed eyes and greatly elongated, serrate antennae, characters separating *P. megalophthalmus* from most of its allies. The prothorax is shining, almost smooth, and without definite callosities on the disc towards the base. The apically undivided, simply lobed tarsal claws of the male distinguish the present species from *Discodon incisum* and others; and the non-callose prothorax, larger eyes in ♂, etc., from *P. (Silis) longicornis*, Gorb.

19. *Polemium cephalotes*. (Plate VIII, fig. 60, prothorax, ♂.)

Telephorus (Silis) cephalotes, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 289 (♂ ♀).

♂. Head large, broad; eyes large; antennae very long, feebly subserrate, tapering towards the tip; prothorax fully as long as broad, narrow, the margins reflexed, obliquely plicate, deeply angularly notched just behind the middle (appearing bluntly dentate in front of this), and slightly hollowed before the hind angles; elytra much broader than the prothorax, widening to the apex; inner claw of anterior tarsi, and outer claw of the other tarsi, angularly dilated at base.

♀. Head, eyes, mandibles, and antennae much as in ♂, the eyes a little less prominent; prothorax transverse, the margins trisinate, and thickened into a small blunt tooth at the middle, the hind angles acute and prominent.

Hab. PANAMA, Bugaba.

One male and two females seen. A moderately elongate, posteriorly widened form; shining, piceous, with the head (except on the middle of the vertex), the last two joints of the antennae, the sides of the prothorax, the humeri, and sometimes the base of the femora also, testaceous or yellow, the elytra finely sculptured, the head large in both sexes, the prothorax elongate and with the sides deeply angularly notched at about the middle in the male, the legs slender. *P. cephalotes* bears some resemblance to *Discodon plicatum*, Gorh., but the latter has two of the tarsal claws cleft in the male.

20. *Polemium sallaei*.

Silis sallaei, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 303.

♂. Eyes large; antennae elongate, slender; prothorax nearly as long as broad, obliquely grooved on each side anteriorly, the margins narrowly reflexed, angularly dilated at about the middle and subparallel thence to the acute hind angles; inner claw of anterior tarsi, and outer claw of the other tarsi, angularly dilated at base.

♀. Eyes smaller; antennae a little shorter; prothorax more transverse, more narrowed anteriorly, the margins simply trisinate.

Hab. MEXICO, Cordova (*Sallé*: ♂ ♀); GUATEMALA, Senahu in Alta Vera Paz (*Champion*: ♀).

Described by Gorham from two pairs from Cordova. A female from Vera Paz found placed under *P. (Discodon) bivittatus*, with the prothoracic vittae more strongly sinuate, seems to belong here. *P. sallaei* has the front of the head, a spot on the vertex, the prothorax (a sharply-defined, sinuous submarginal stripe on each side excepted), and the femora to near the tip, pale testaceous, and the rest of the body piceous.

21. *Polemius albibucca*.

Silis albibucca, Pic, Le Nat. 1910, p. 44 (♂ ♀).

Moderately elongate, shining, finely pubescent; nigro-piceous or piceous, the head in front, the prothorax, and the femora to near the tip, testaceous or pale testaceous. Head together with the eyes broader than the prothorax in ♂; eyes large in ♂, smaller in ♀; antennae long, slender, and sparsely pilose in ♂, shorter in ♀. Prothorax (♂) broader than long, obliquely bicarinate on the disc, and with a short carina in the middle before the base, the margins broadly, subangularly dilated anteriorly and parallel thence to the acute hind angles; (♀) more transverse, the margins more broadly reflexed and simply trisinate. Elytra much wider than the prothorax, subparallel, moderately long, roughly sculptured and obsoletely costate. Inner claw of anterior tarsi, and outer claw of the other tarsi, angularly dilated at base in ♂.

Length (excl. head) $4\frac{1}{2}$ – $5\frac{1}{2}$, breadth $1\frac{1}{2}$ –2 mm. (♂ ♀.)

Hab. MEXICO (*Mus. Brit.* : ♀), Teapa (*H. H. Smith* : ♂ ♀).

Two males and three females, agreeing nearly with Pic's description, except in the paler colour of the prothorax, possibly due to immaturity. This species is very closely related to *P. (Silis) sallaei*, Gorh., of which it would appear at first sight to be a form with an immaculate prothorax, differing from it in the broader and more prominent tooth-like dilatation of the latter in the male, and in the more transverse prothorax of the female. Pic says his *Silis albibucca* is probably near *S. haematodes*, Gorh., the lateral prothoracic prominence of which is very differently shaped and placed behind, instead of at about, the middle in ♂. The two examples in the British Museum were acquired in 1856. *Discodon oppositipunctum*, Gorh., is not unlike the present species, but it is larger and has one of the claws of each foot cleft at the tip in ♂.

22. *Polemius pauperculus*.

Silis paupercula, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 299 (exclud. specimen from Vera Cruz, and var.?).

Moderately elongate, shining, finely pubescent; piceous or fuscous, the anterior and post-ocular portions of the head, the last two or three joints of the antennae in some specimens, the sides of the prothorax broadly, the sutural and outer margins of the elytra, and the legs in part or almost entirely (the base of the femora excepted), testaceous. Eyes very large in ♂, smaller in ♀. Antennae long in ♂, shorter in ♀. Mandibles simply curved in both sexes. Prothorax (♂) broader than long, strongly, obliquely grooved on each side anteriorly, the sides feebly notched at the middle, parallel thence to the acute, prominent hind angles, and broadly subangularly dilated in front of the median constriction, the base sinuate; (♀) broader, less narrowed behind, the shallow lateral notch wanting, and the ante-median projection thickened. Elytra moderately elongate, subparallel, wider than the prothorax, rather finely sculptured. Inner claw of anterior tarsi, and outer claw of intermediate tarsi, with an angular lobe at the base in ♂.

Length (excl. head) $3\frac{1}{2}$ –5, breadth $1\frac{1}{10}$ – $1\frac{2}{3}$ mm. (♂ ♀.)

Hab. PANAMA, Chiriqui.

Redescribed from sixteen examples, half of which are males. Very like *P. (Silis) oblita*, Gorh., some of the specimens having the last three joints of the antennae flavous; but differing from it in the angularly dilated, obliquely grooved sides of the prothorax in both sexes, the more sparsely pilose antennae of the male, and the simply curved mandibles of the female. The var.? mentioned by Gorham is referable to his *Silis ardua* and the Vera Paz specimen to *S. oblita*.

23. *Polemius longicornis*.

Silis longicornis, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 303 (♂) (*nec* Leconte, 1851).

Hab. MEXICO, Oaxaca.

Described from three males, another specimen of the same sex having since been detected in the British Museum. In this insect (♂) the antennae are unusually elongate and serrate; the eyes are moderately large; the prothorax, the sides of the head in front, and the base of the mandibles are testaceous, and the rest of the body black; the elytra

are subgranulate and closely cinereo-pubescent; the prothorax is transverse, rounded-subquadrate, with the reflexed margins feebly notched behind the middle; and one of the claws of each foot is angularly dilated at the base. *P. megalophthalmus*, from Durango, is not unlike *P. longicornis*, but it has very large eyes, a longer prothorax, and still more elongate, serrate antennae, in the male, the scutellum yellow, etc.

24. *Polemium albimargo*, n. sp.

♂. Moderately elongate, very shining, sparsely pubescent; nigropiceous, the anterior margin of the head, the mandibles, antennae, prothorax, scutellum, coxae, and legs (the base of the posterior femora excepted), testaceous, the sutural and lateral margins of the elytra whitish. Head together with the enormously developed eyes wider than the prothorax, smooth, hollowed in the middle; antennae slender, as long as the body, joints 3-7 elongate (8-11 missing), 2 very small. Prothorax broad, transversely subquadrate, with narrowly reflexed margins, which are dilated into a rather broad, prominent, subangular tooth beyond the middle (appearing obliquely convergent thence to the apex) and gradually widened posteriorly to the subrectangular hind angles. Elytra considerably wider than the prothorax, moderately long, subparallel, rather sparsely, finely punctate.

Length (excl. head) 4½, breadth 2 mm.

Hab. COSTA RICA (*Mus. Brit., ex coll. Fry*).

One male, with the legs and antennae imperfect. A remarkably distinct form, having the general facies of *Silis ocellaris*, Gorb., and the elytral coloration and sculpture of *Silis jocosus*; the prothorax, however, is very differently shaped from that of the male of either of these species. *P. albimargo* approaches *P. (Silis) amicula*, Gorb. (♂), but it is broader, the eyes are still larger, the antennae are longer and wholly testaceous, and the lateral prominence of the prothorax is wider and not followed by an oblique plica.

25. *Polemium amicula*.

Silis amicula, Gorb., Biol. Centr.-Am., Coleopt. iii, 2, p. 299 (♂ ♀).

♂. Eyes enormously developed; prothorax subquadrate, arcuate at the apex, narrowly margined laterally, the margins obliquely

plicate behind the stout, blunt, tooth-like, median prominence, the hind angles acute.

♀. Eyes much smaller; prothorax shorter, more narrowed anteriorly, the tooth-like lateral prominence smaller.

Hab. PANAMA, Bugaba and Caldera in Chiriqui.

Represented in the "Biologia" collection by seven specimens, two only of which are males, one of these (the type) having very large eyes, the other doubtless belonging to the next species. In this insect the sutural and outer margins of the elytra, the scutellum, and the basal margin of the prothorax are whitish, the rest of the prothorax being testaceous, and the disc of each elytron wholly or in part nigro-piceous; the front of the head, the base of the antennae, and the femora and tibiae are testaceous, the rest of the head black. There is less difference than usual in the general shape of the prothorax in the two sexes. The enormous eyes of the male were not mentioned by Gorham.

26. *Polemium nigroplectrum*.

Silis nigroplectrum, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 300 (♀).

Hab. PANAMA, Volcan de Chiriqui.

Smaller than *P. amicula*, the prothorax with the entire disc and the lateral tubercles black, the margins whitish, the antennae infusate to the base. Described from two females. An immature male from Bugaba, with the legs and antennae slender and wholly testaceous, the fuscous dorsal stripe of the elytra reduced to a streak on the apical half, and the eyes much smaller in the male than in the same sex of *P. amicula*, probably belongs here. This pallid specimen was labelled *Silis amicula*, ♂, by Gorham.

27. *Polemium basalis*.

Silis basalis, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 94 (♂♀).

Polemium (?) *basalis*, Schaeff., Journ. N. York Ent. Soc. xvi, p. 62.

Hab. GUATEMALA, Purula in Vera Paz [types: ♂♀], Quiché Mts. [♀], Calderas [♂].

In the typical form of this species, of which a good series was captured at Purula, the head and prothorax, the base

of the elytra, the two basal joints of the antennae, the femora, tibiae, and under surface are testaceous, the legs, antennae and under surface being infusate in the other examples. The male is described as having the prothorax subquadrate, with the margins (which are rather broadly reflexed) minutely excised behind the middle; but this definition is misleading, the narrow notch being straight and deep. The female has a broader, posteriorly widened prothorax, with trisinate margins. The eyes of the male are smaller than in many of the allied forms; and the inner claw of the anterior tarsi is triangularly dilated at the base in this sex.

28. *Polemius proximus*.

♀. *Silis proxima*, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 298 (excl. ♂).

Moderately elongate, shining, finely pubescent; nigro-piceous, the head in front (♂) or at the sides before the eyes (♀), the basal joint of the antennae beneath, and the prothorax (a complete median vitta excepted, which is absent in one of the Chiacam types), stramineous or pale testaceous, the under surface and legs fuscous, the femora and base of the tibiae more or less testaceous. Eyes moderately large in ♂, smaller in ♀. Antennae (♂) long, stout, serrate, tapering outwards, and with joints 3-10 distinctly lineate or canalliculate, 2 very small; (♀) shorter and less dilated, moderately stout, tapering towards the tip. Mandibles curved in both sexes. Prothorax (♂) strongly transverse, feebly binodose near the base, the sides with a narrow, deep, straight notch a little behind the middle, parallel thence to the sharp hind angles, and abruptly converging at the apex, the explanate thickened margin forming an oblique dentiform prominence in front of the notch; (♀) broader and more explanate, the margins obsoletely plicate, bi- or trisinate, converging from about the basal third forwards, the hind angles prominent. Elytra moderately long, at the base not or very little wider than the prothorax, parallel, densely sculptured, obsoletely costulate. Inner claw of anterior tarsi distinctly, and outer claw of the other tarsi more feebly, dilated at base in ♂.

Length (excl. head) 4-5, breadth $1\frac{1}{2}$ - $1\frac{3}{4}$ mm. (♂ ♀.)

Hab. MEXICO, Teapa in Tabasco (*H. H. Smith*: ♂ ♀); GUATEMALA, Chiacam in Alta Vera Paz [types, ♀].

A long series of this insect from Teapa is now available for examination, showing that the single male from Chiacam doubtfully referred by Gorham to *Silis proxima* belongs to

a different species, *P. dentimargo*; the numerous Mexican females agree perfectly with the specimen labelled type. The six males seen all have the antennae distinctly canaliculate. Both localities are on the Atlantic slope.

29. *Polemium medianus*, n. sp.

Moderately elongate, shining, finely pubescent; nigro-piceous, the head in front (♂) or at the sides before the eyes (♀), the basal joint of the antennae beneath, and the prothorax (a median vitta excepted), stramineous or testaceous, the legs piceous, the femora and base of the tibiae, at least in ♂, often testaceous. Head together with the eyes much wider than the prothorax in ♂, narrower in ♀; mandibles curved in both sexes; eyes enormously developed in ♂, small in ♀; antennae in ♂ about as long as the body, subserrate, clothed with short hairs, in ♀ much shorter and slightly tapering towards the tip. Prothorax (♂) transverse, arcuate in front, the sides with a straight, narrow notch at the middle and parallel thence to the rectangular hind angles; (♀) a little broader, with the sides somewhat rounded and rather narrowly explanate. Elytra moderately long, a little wider than the prothorax in both sexes, densely sculptured. Tarsal claws as in *P. proximus*.

Length (excl. head) $3\frac{1}{2}$ – $4\frac{1}{4}$, breadth $1\frac{1}{2}$ – $1\frac{3}{4}$ mm. (♂ ♀.)

Hab. MEXICO, Teapa [types] (*H. H. Smith*: ♂ ♀); GUATEMALA, Cubilguitz [♂] and San Juan [♀] in Alta Verz Paz (*Champion*).

Three males and several females. Extremely like *P. proximus*, and sent with that insect from Teapa, from which it may be distinguished by the enormously developed eyes, the non-caliculate antennae, and the narrower and less transverse prothorax of the male. The various females somewhat doubtfully referred to *P. medianus* are only separable from the same sex of *P. proximus* by their relatively narrower prothorax and darker legs. The single male from Cubilguitz was found placed under *P. (Silis) nigrita*, Gorb., in the "Biologia" collection; *Silis ocellaris*, Gorb., ♂, has similar eyes.

30. *Polemium hirticornis*, n. sp.

♂. Moderately elongate, shining, finely pubescent; nigro-piceous, the front of the head, the prothorax (a narrow median vitta excepted), and legs (the outer joints of the tarsi excepted) stramineous or testaceous, the elytra piceous. Eyes enormously developed.

Antennae longer than the body, densely clothed with rather long projecting hairs, joints 3-11 very elongate, 2 extremely short, 3-7 gradually widened to the apex, 8-11 narrower. Prothorax transverse, arcuate in front, narrowing from the obtuse hind angles and obliquely sulcate on each side towards the apex, the groove impinging on the narrowly reflexed margin. Elytra wider than the prothorax, parallel, roughly sculptured. Tarsal claws as in *P. proximus*.

Length (excl. head) 4, breadth $1\frac{1}{5}$ mm.

Hab. PANAMA, Bugaba (*Champion*).

The above description is taken from a male from Bugaba in perfect condition found placed in the "Biologia" collection under *P. (Silis) nigrita*, Gorh., a very different Guatemalan insect. The greatly developed eyes in the male bring *P. hirticornis* near *P. medianus*, from the same sex of which it differs in its still longer, more serrate, and densely pilose antennae, and the much less quadrate prothorax, the sides of which are strongly and obliquely plicate towards the apex, instead of at the middle. A dissected female from the same locality placed (but not quoted) by Gorham under *P. (Silis) proximus*, with the antennae formed as in that insect, probably belongs to the present species, the prothorax being plicate laterally much as in the type of *P. hirticornis*.

31. *Polemium dentimargo*, n. sp. (Plate VIII, fig. 61, prothorax, ♂.)

Silis proxima, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 298 (♂, nec ♀).

♂. Moderately elongate, shining, clothed with long pallid hairs; piceous or fuscous, the sides of the head before and behind the eyes, the base of the mandibles, the prothorax (a narrow median vitta excepted), the sutural and outer margins of the elytra, the humeri, and the legs in great part (the anterior and intermediate tibiae and tarsi excepted), pale testaceous. Antennae long, slender, sparsely pilose. Eyes very large. Prothorax transverse, the sides explanate and feebly reflexed, dilated into a broad subangular tooth before the middle, angularly notched behind this, and constricted at the base, the hind angles acute, the base sinuate. Elytra long, subparallel, wider than the prothorax, roughly sculptured. Inner claw of anterior tarsi, and outer claw of the other tarsi, angularly dilated at the base.

Length (excl. head) $4\frac{1}{2}$ - $4\frac{3}{4}$, breadth $1\frac{1}{2}$ mm.

Hab. GUATEMALA, Chiacam and Cubilguitz in Alta Vera Paz.

Two males, agreeing perfectly *inter se*. Gorham's description of *Silis proxima*, from Chiacam, was taken from the female, the male provisionally referred to it by him proving to belong to a different species now that both sexes of *P. proximus* are definitely known. *P. dentimargo*, in fact, comes very near *P. (Silis) pauperculus*, Gorh., from Chiriqui; but it has the prothorax (of the male) less narrowed behind, with the margins more distinctly notched at the middle, and the deep oblique lateral sulci shallower and straighter.

32. **Polemius minutus.** (Plate VIII, fig. 62, prothorax, ♂.)

Silis minuta, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 305 (♂).

Hab. GUATEMALA, Zapote, on the slope of the Volcan de Fuego.

P. (Silis) minutus is represented in the "Biologia" collection by two males from Zapote, mounted by their captor on the same piece of card, and labelled "type" by Gorham. They belong to different species, but the description can only have been made from one of them, that with the whole of the anterior portion of the head whitish and the femora testaceous to near the tip. This specimen, the actual type, has the prothorax rufo-testaceous, with a black median vitta and sharply defined whitish margins, interrupted at the middle by an outward extension of the reddish coloration. It has the eyes small, but prominent; the antennae moderately long, with very short second joint; the prothorax strongly transverse, hollowed down the centre, with the reflexed margins plicate and narrowly excised behind the middle, the lobe in front of it rounded externally and not very prominent, the hind angles rectangular; the elytra parallel and roughly sculptured. The somewhat similar *Discodon (Silis) minusculum*, Gorh., from the same locality, has the sides of the prothorax of the male dilated anteriorly into a broad angular lobe and the lateral excision broader and placed further forward, the second antennal joint longer, the three tarsal claws cleft, etc.

33. *Polemium xanthoderes*, n. sp.

♂. Comparatively short, shining, clothed with rather coarse cinereous pubescence; black, the sides of the head in front, the mandibles, the two basal joints of the antennae beneath, the prothorax, the tibiae to near the apex, and the tarsal claws, testaceous or rufo-testaceous. Eyes small. Antennae rather stout, about reaching the middle of the elytra. Prothorax short and broad, transversely subquadrate, the margins narrowly reflexed, angularly notched at the middle, and slightly thickened in front of the emargination. Elytra rather short, subparallel, roughly sculptured. Inner claw of anterior tarsi, and outer claw of the other tarsi, simply dilated at base.

Length (excl. head) $3-3\frac{1}{2}$, breadth $1\frac{1}{10}-1\frac{1}{2}$ mm.

Hab. MEXICO, Tierra Colorada in Guerrero (*H. H. Smith*).

Two males. A very small shining insect, with a broad, transversely subquadrate, mesially notched prothorax in the male, and comparatively short elytra, the prothorax and the tibiae in part testaceous, the rest of the surface almost entirely black. Amongst the species described by Gorham *P. xanthoderes* is perhaps nearest related to *P. (Silis) minutus*.

34. *Polemium cavicollis*, n. sp.

♂. Comparatively short, shining, thickly pubescent; black, the points of insertion of the antennae, the mandibles, and prothorax (a transverse patch on the disc at the base excepted) testaceous. Eyes moderately large. Antennae long, nearly reaching the apex of the elytra, closely pilose. Prothorax small, transverse, hollowed down the middle behind, rounded at the sides, the margins explanate, reflexed, obliquely plicate, and deeply sinuate before the prominent hind angles. Elytra rather short, subparallel, and roughly sculptured. Inner claw of anterior tarsi, and outer claw of the other tarsi, feebly dilated at base.

Length (excl. head) $3\frac{1}{2}$, breadth $1\frac{1}{2}$ mm.

Hab. MEXICO, Rincon in Guerrero, 2800 ft. (*H. H. Smith*).

One male. A little more elongate than *P. xanthoderes* (♂), the eyes larger, the antennae much longer, the legs wholly infuscate, the prothorax rounded at the sides, the latter hollowed and obliquely plicate behind the middle, the hind angles prominent, the disc deeply excavate posteriorly.

35. *Polemius ornatcollis*, n. sp. (Plate VIII, fig. 63,
prothorax, ♂.)

Rather short, shining, finely pubescent; black or piceous, the sides of the head in front, the mandibles, and sometimes the base of the antennae and the femora in part, testaceous, the prothorax rufo-testaceous, with a black median vitta of variable breadth and interrupted whitish margins, the lateral prominences of ♂ blackish in one specimen. Eyes small and antennae long in both sexes, joint 2 of the latter very short. Prothorax (♂) transversely subquadrate, bicallose on the disc posteriorly, notched at the middle on each side and with a small blunt tooth in front of the emargination, the narrowly dilated margins gradually becoming a little wider towards the rectangular hind angles; (♀) broader, more widened posteriorly, the margins more expanded, plicate, and simply sinuate before and behind the middle. Elytra comparatively short, slightly widened posteriorly, roughly, densely sculptured and obsoletely costate.

Length (excl. head) 3-4, breadth $1\frac{1}{4}$ - $1\frac{1}{2}$ mm. (♂ ♀.)

Hab. MEXICO, Tapachula (*Höge*: ♀), Teapa (*H. H. Smith*: ♂); GUATEMALA, Zapote, Pacific slope (*Champion*: ♂ ♀).

Described from four examples, the pair from Zapote (including the male left by Gorham under his *Silis minuta*) being taken as the types, varying in the development of the black median vitta of the prothorax, this being dilated towards the base and apex in the Zapote male. The dark head and legs, and the very differently shaped prothorax of the male, separate *P. ornatcollis* from *P. minutus*. The tricoloured prothorax is common to various allied forms. One of the smallest species of the group.

The following species cannot be definitely located till the males are discovered.

36. *Polemius mimetus*.

♀. *Telephorus* (*Silis*?) *mimetus*, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, pp. 90, 289.

Moderately elongate, narrow, finely pubescent; opaque, black, the entire anterior portion of the head, the sides of the latter behind the eyes, the sides of the prothorax, and the humeri flavous; head large; eyes small; mandibles curved; antennae short, rather

slender, joint 2 about half the length of 3; prothorax transversely subquadrate, uneven, the margins narrowly reflexed, trisinate, dilated into a blunt tooth anteriorly, and with acute projecting hind angles; elytra moderately long, wider than the prothorax, subparallel, finely sculptured and obsolete costate; legs slender.

Hab. GUATEMALA, Zapote, Cerro Zunil, both on the Pacific slope.

Three females seen. This insect can be provisionally placed under *Polemius*; it has obviously nothing to do with *Telephorus sensu stricto*.

37. *Polemius rugipennis*.

Telephorus rugipennis, Gorb., Biol. Centr.-Am., Coleopt. iii, 2, p. 90.

♀. Anterior portion of head, base of antennae, reflexed margins of prothorax, and a large subquadrate space on each side behind, coxae, and femora to near the tip, flavous or testaceous, the rest of the body in great part nigro-piceous. Eyes small; mandibles curved; apical joint of palpi stout; antennae long, rather slender, joints 3-11 flattened, slightly tapering towards the tip; prothorax transverse, the margins rounded, feebly sinuate, reflexed throughout, the hind angles acute, the disc excavate down the middle posteriorly; elytra rather coarsely, densely, granulato-punctate and feebly costulate.

Hab. GUATEMALA, Zapote, on the slope of the Volcan de Fuego.

Gorham was unable to identify the sex of the three specimens he described under the name *T. rugipennis*: they are certainly females. The rough elytral sculpture is suggestive of that of *Silis sicula*, Gorb., approaching that of *Parasilis*.

SILIS.

Silis, Latreille, Règne Anim., ed. 2, iv, p. 47 (1829); Leconte, Trans. Am. Ent. Soc. v, p. 60 (1874), and ix, p. 56 (1881); Gorham, Biol. Centr.-Am., Coleopt. iii, 2, p. 91 (1881) (part.).

Ditemnus, Leconte, Class. Coleopt. N. Am. p. 189 (1861); Trans. Am. Ent. Soc. ix, p. 57.

The heterogeneous forms here placed under *Silis*, after

the elimination of all those included in it by Gorham with one or more of the tarsal claws cleft in male, should perhaps be referred to more than one genus; but I am unable to find any structural characters upon which to divide them. There is every gradation in the form of the armature of the margins of the prothorax, from long lobes to short teeth, and the species here included under Section II would be equally well placed under *Polemnius*, in which the lateral margins are, at most, simply notched or interrupted in the male, *i. e.* as in *Discodon*. *Ditemnus* (type *Silis lepida*, Lec. = *Cantharis bidentata*, Say) is nearly related to the European *Silis ruficollis*, F., and the Mexican *S. longidens* to the European *S. nitidula*, F. The single species referred to Section III, *S. chalybeipennis*, Gorh., will doubtless, sooner or later, have to form the type of a separate genus. *Silis*, as understood here, may be defined thus: prothorax with the lateral margins incised or constricted at or towards the base, and sometimes (*Ditemnus*) deeply incised at about the middle also, the margins more or less lobed, lamellate, or dentate, the lobes often imbricate, the tarsal claws uncleft, and the seventh ventral segment divided down the middle, in ♂. The typical forms have small eyes and rather stout serrate antennae, but this definition does not apply to many species placed under Section II. We are indebted to Mr. H. C. Fall for specimens of several of the described N.-American representatives of the genus for comparison.

The Central American species of *Silis* may be grouped by their ♂ characters thus* :—

Silis.

- I. Prothoracic margins deeply bi-incised, and also strongly bi- or trilobed.
 - a. Lateral lobes long, convergent: species elongate, black, Telephoriform . . . *Species 1.*
 - b. Lateral lobes lamelliform, directed backwards or imbricate: species smaller and less elongate.
 - a¹. Inner anterior tarsal claw with a stout angular lobe at base: species Malachii-form, black *Species 2.*

* Females only known of species 18, 34.

- b¹. Inner anterior tarsal claw simply dilated at base.
- a². Species Telephoriform [= *Ditemnus*, Lec.] *Species 3-14.*
- b². Species Lyciform *Species 15.*
- II. Prothoracic margins with a single median or post-median incision.
 - c. Prothorax subcampanulate, the margins with a very deep post-median notch limited in front and behind by a sinuous dentiform process; eyes large: species Lyciform *Species 16.*
 - d. Prothorax transversely suborbiculate, the margins with a deep oblique notch at middle, limited in front and behind by a backwardly-curved lamella; eyes large: species small, Lyciform *Species 17, 18.*
 - e. Prothorax small, transverse, the margins with a narrow deep oblique notch towards base, limited in front by a long backwardly directed process and behind by a short sub-bidentate lamella; eyes small: species small, Lyciform *Species 19.*
 - f. Prothorax transversely orbiculate, the margins notched or plicate at or behind middle and more or less dentate: species small, Lyciform or Telephoriform *Species 20-32.*
 - g. Prothorax with the margins dilated into a backwardly-directed lobe or blunt tooth before base: species small, Telephoriform *Species 33, 34.*
- III. Prothoracic margins very deeply incised at base, and also notched at middle; elytra metallic: species Telephoriform *Species 35.*
- Species of doubtful position, females only known *Species, 36-38.*

1. *Silis longidens*, n. sp. (Plate VIII, fig. 64, prothorax, ♂.)

♂. Elongate, shining, finely cinereo-pubescent; black, the head on each side in front, the base of the mandibles, the prothorax with the reflexed margins and the tips of the lateral teeth, the anterior trochanters, and the tarsal claws, testaceous or whitish.

Head closely, minutely punctate; eyes moderately large; antennae long and slender (joints 8-11 missing). Prothorax transverse, bicarlose on the disc posteriorly; the margins narrowly reflexed, dilated laterally into two very long, prominent, convergent teeth, the one in front of the deep median excision narrow, obliquely curved outwards, the other broader, flattened and lobiform, curved forwards, obliquely truncate at the tip, and armed with a small tooth on its anterior edge towards the base; the reflexed basal margin dilated laterally into a sharp tooth; the surface sparsely, very minutely punctate. Elytra long, parallel, wider than the prothorax, sparsely, finely punctate. Inner claw of anterior tarsi, and outer claw of the other tarsi, with a dentiform lobe at the base.

Length (excl. head) $7\frac{1}{2}$, breadth $2\frac{1}{3}$ mm.

Hab. MEXICO, Omilteme in Guerrero, 8000 ft. (*H. H. Smith*).

One male, wholly unlike any of the Mexican forms described by Gorham. *S. longidens* is of about the size and shape of the insect here described under the name of *Discodon melanopterum*, from the same locality; but it could not possibly be the male of that species, which is known from females only, these latter having much more densely sculptured elytra. The two convergent lateral teeth of the prothorax are very long and prominent, and separated by a deep incision, much as in the European *S. nitidula*, F.

2. *Silis laticollis*. (Plate VIII, fig. 65, prothorax, ♂.)

Silis laticollis, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 97, pl. 6, fig. 17 (♂).

Hab. MEXICO, Jacale [? = Jacala in Hidalgo].

Two males of this remarkable *Silis* are contained in the "Biologia" collection. It is a broad, robust, shining, cinereo-pubescent, black insect, with the apex of the abdomen and the base of the mandibles testaceous. The prothorax is much broader than the elytra, and has the two long, convergent, lateral, post-median lobes separated by a very deep oblique excision. The elytra are parallel, short (not covering the abdomen), and coarsely punctured. The legs and antennae are rather stout, the latter closely pilose. The inner claw of the anterior tarsi is strongly lobed, and the outer claw of the other tarsi angularly dilated, at the base. Schaeffer has described an allied form, *S. nigerrima*, from Arizona.

3. *Silis distorta*. (Plate VIII, fig. 66, prothorax, ♂.)

Silis distorta, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 95 (♂ ♀).

Hab. GUATEMALA, Pacific slope and vicinity of the capital.

This species, of which a long series was obtained, may be known from *S. dilacerata* by the larger and broader prothorax of the male, the lateral lobes of which are broad, imbricate, and directed backward; the prothorax of the female, too, is less transverse than in *S. dilacerata*, and in both sexes it is much suffused with black on the disc, the space between the dark patch and the flavous outer and anterior margins being partly red. The outer limb of the elytra is sometimes testaceous at the base. The mandibles of the female are curved.

4. *Silis torticollis*. (Plate VIII, fig. 67, prothorax, ♂.)

Silis torticollis, Gorh., Centr.-Am., Coleopt. iii, 2, p. 301 (♂ ♀).

♂. Prothorax short, as broad as, or broader than, the elytra, narrow at the base, excavate down the middle, strongly trilobate laterally—the anterior lobe curved backward, rounded in front, and deeply excavate behind, the others oblique and contiguous (the anterior one narrow, the other broad); elytra rather shining, with an elongate space on the disc beyond the middle impressed with irregular rows of coarse punctures, the rest of their surface very finely sculptured; inner claw of anterior tarsi angularly dilated at the base.

♀. Prothorax narrower than the elytra, the margins deeply excised at the middle and with a stout blunt in front of the emargination; elytra opaque, finely sculptured throughout; mandibles bent; eyes smaller than in ♂; antennae shorter and less serrate than in ♂.

Hab. PANAMA, near the city [♂] and San Miguel in the Pearl Islands. [♂ ♀, types.]

A small nigro-fuscous insect, with the anterior portion of the head, the mandibles, and the prothorax wholly or with the lateral portions broadly, testaceous. Six males and three females seen, one pair only having the prothorax immaculate. The sexual differences in the elytral sculpture were not noticed by Gorham.

5. *Silis trilobata*, n. sp. (Plate VIII, fig. 68, prothorax, ♂.)

Silis dilacerata, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 96 (part.).

Comparatively short, the head and prothorax shining, the elytra dull, thickly pubescent; nigro-piceous, the mandibles and prothorax (a broad median vitta excepted, this being dilated at the base and apex in ♂) rufous or testaceous, the outer limb of the elytra obscure testaceous. Eyes small. Mandibles curved. Antennae stout, moderately long, tapering outwards. Prothorax (♂) strongly transverse, as broad as the elytra, narrow at the base, very deeply excavate on the disc, trilobate at the sides—the anterior lobe rather long and narrow, reflexed and somewhat rounded externally, and truncate behind, the posterior lobe longer, oblique, and cleft into two, the upper portion broad and laminiform, the lower (posterior portion) longer and narrower, both truncate at the apex; (♀) simply sinuato-emarginate at the sides before the hind angles. Elytra rather short, widened posteriorly in ♂, subparallel in ♀, rather finely sculptured.

Length (excl. head) $4\frac{1}{4}$ –5, breadth 2 – $2\frac{1}{10}$ mm. (♂ ♀.)

Hab. MEXICO (*Truqui*, in *Mus. Brit.*: ♀), Juquila in Oaxaca (*Salle*: ♂ ♀).

One male and two females, the pair from Juquila quoted by Gorham under *S. dilacerata*. The lateral armature of the ♂ prothorax is very different in these two species, the oblique posterior lobe in *S. trilobata* being divided into two laminiform truncated processes. The two females have the disc of the prothorax broadly vittate and deeply excavate.

6. *Silis dilacerata*. (Plate VIII, fig. 69, prothorax, ♂.)

Silis dilacerata, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 96, pl. 6, fig. 4 (♂) (part.).

♂. Eyes small; antennae subserrate, rather stout, moderately long, tapering outwards; prothorax as broad as the elytra, narrow at the base, deeply excavate on the disc, with two long lobes projecting outwards on each side, the anterior lobe rounded externally and (as seen from behind) subtruncate posteriorly, the posterior lobe oblique, unarmed in front, and more or less cleft at the tip.

♀. Prothorax simply emarginate at the sides before the base.

♂. Ninth ventral segment transverse, the partially evaginated

internal sac disclosing a stout hook on each side and a pair of long, slender, strongly curved hooks in the middle. (Fig. 36.)

Hab. MEXICO (*Mus. Brit., Truqui*), Orizaba, Jalapa, Vera Cruz, Frontera, Teapa; GUATEMALA, Capetillo [type], Guatemala City, San Gerónimo.

Var.? Anterior lateral lobe of the prothorax of ♂ extending further backward, sinuate externally, and drawn out at the apex into a blunt tooth, the posterior lobe broader, apparently arising from nearer the base, cleft at the tip.

Hab. MEXICO, Cuernavaca.

Var.? Anterior lateral lobe of the prothorax of ♂ curved backward, its posterior margin oblique, the posterior lobe cleft as in typical *S. dilacerata*; prothorax of ♀ simply emarginate on each side before the hind angles.

Hab. PANAMA, Volcan de Chiriqui.

Various species were included under *S. dilacerata* by Gorham, including one from San Gerónimo with a pale elytral suture and very large eyes in the male, *S. biauriculata*. The type (♂) figured by him was from Capetillo. The specimens from Chontales, Chiacam, Purula, etc., have an erect spine on the posterior lobe of the prothorax of the male, and conspicuous whitish lateral margins to the elytra: they are here separated under the name *acantholobus*. The Juquila insect, again, *S. trilobata*, has the lateral armature of the ♂ prothorax differently formed. The varieties of *S. dilacerata* from Cuernavaca and Chiriqui, the former represented by a single male, and the latter (not mentioned by Gorham) by two males and one female, may have to be separated when more material is obtained. The black median vitta of the prothorax is often obsolete in both *S. dilacerata* and *S. acantholobus*. The outer limb of the elytra is usually pale testaceous in the present species. In one female of the latter the prothoracic depression is wanting.

7. *Silis acantholobus*, n. sp. (Plate VIII, fig. 70,
prothorax, ♂.)

Silis dilacerata, var., Gorh., Biol. Centr.-Am., Coleopt. iii,
2, p. 96.

Moderately elongate, shining, finely pubescent; nigro-piceous or black, the anterior margin of the head, the base of the mandibles,

the basal joints of the antennae beneath, the margins of the prothorax, and the outer limb of the elytra flavescent or whitish, the rest of the prothorax rufous or rufo-testaceous, often with a complete or abbreviated black median vitta. Head transversely depressed or flattened between the eyes, the latter small in both sexes; antennae not very stout, extending to beyond the middle of the elytra in ♂, shorter in ♀. Prothorax (♂) transverse, as wide as or wider than the elytra, narrow at the base, deeply excavate and often sulcate on the disc, the lateral lobes broad—the anterior one curved backward and ciliate, the posterior one oblique, truncate at the apex, pointed at the outer angle, and armed on its anterior edge near the base with a slender erect, dentiform process, which is obliquely truncate or bidentate at the tip; (♀) simply notched on each side before the hind angles, the dorsal excavation shallower and often divided into two. Elytra subparallel, finely sculptured.

Length (excl. head) $4\frac{1}{8}$ – $5\frac{1}{3}$, breadth $1\frac{1}{2}$ – $2\frac{1}{16}$ mm. (♂ ♀.)

Hab. MEXICO (*Mus. Brit.*, *Mus. Oxon.*), Orizaba, Cordova, Atoyac, Jalapa, Teapa, Capulalpam, Tehuantepec; ? HONDURAS; GUATEMALA, Purula and Chiacam in Alta Vera Paz; NICARAGUA, Chontales.

Gorham separated the Chontales and some other specimens from *S. dilacerata* as a variety on account of their wholly red prothorax (a character of no value); but he did not notice the slender erect dentiform process on the anterior margin of the posterior lateral lobe of the prothorax of the numerous males before him, which is perfectly constant in the large number of specimens of this sex from Teapa and other places examined by me. *S. acantholobus*, too, is a more elongate insect than *S. dilacerata*, the elytra are more shining and have a more definite whitish lateral margin, and the antennae of the male are longer and not so stout. The Jalapa female mentioned by Gorham under *S. ludicra* (loc. cit. p. 302) belongs here.

8. *Silis biauriculata*, n. sp. (Plate VIII, fig. 71,
prothorax, ♂.)

Silis dilacerata, Gorh., Biol. Centr.-Am., Coleopt. iii, 2,
p. 96 (part.).

♂. Moderately elongate, narrow, shining, somewhat thickly pubescent; nigro-piceous, the anterior portion of the head, the prothorax and scutellum, the sutural and outer margins of the elytra narrowly, and the extreme base of the tibiae, testaceous or

rufo-testaceous. Eyes very large; antennae long, distinctly serrate, rather slender. Prothorax strongly transverse, as wide as the elytra, narrow at the base, broadly excavate and canaliculate on the disc, with strongly developed, overlapping, oblique lateral lobes—the anterior lobe broad, emarginate and ciliate behind, the inner imbricate portion triangular, the posterior lobe truncate externally. Elytra long, subparallel, finely sculptured. Inner claw of anterior tarsi angularly dilated at base.

Length (excl. head) $5-5\frac{1}{2}$, breadth $1\frac{1}{2}-1\frac{4}{5}$ mm.

Hab. GUATEMALA, San Gerónimo in Baja Vera Paz.

Two males, included by Gorham under *S. dilacerata*. The only other Central American species of this section with greatly enlarged eyes in the male is *S. festiva*, from Chiriqui, which has posteriorly dilated elytra, pale legs and antennae, etc. The longer elytra, with pale suture, and the emarginate anterior lateral lobe of the prothorax and the large eyes of the male, separate *S. biauriculata* from *S. dilacerata*, etc.

9. *Silis bilamellata*, n. sp. (Plate VIII, fig. 72, prothorax, ♂.)

♂. Moderately elongate, shining, finely pubescent; nigro-piceous, the anterior portion of the head, the base of the mandibles, the reflexed edges of the prothorax in part, the scutellum, and the sutural and outer margins of the elytra, whitish, the rest of the prothorax rufo-testaceous (in the Pearl Island example fuscous, with an oblong reddish patch on the middle of the disc), the knees testaceous. Eyes moderately large. Antennae long, distinctly serrate. Prothorax strongly transverse, not wider than the base of the elytra, excavate on the disc, with two rather broad, overlapping lateral lobes, the anterior lobe directed backward and rounded externally, the posterior lobe directed straight outward and truncate at the apex. Elytra moderately long, subparallel, finely sculptured.

Length (excl. head) $4\frac{1}{2}-5$, breadth $1\frac{2}{3}$ mm.

Hab. GUATEMALA, San José on the Pacific coast [type]; PANAMA, San Miguel in the Pearl Is.

Two males, the one from Guatemala mentioned by Gorham in his remarks on *S. ludicra*, the other from the Pearl Is. labelled by him as *Silis* n. sp. near *torticollis*. These two examples agree perfectly in the form of the lateral lobes of the ♂ prothorax, but the Panama specimen has less elongate elytra, the disc of the prothorax infuscate on each side, and the eyes slightly smaller. *S. biauriculata*,

S. albicincta, and *S. ludicra* are similarly coloured forms, but they differ in the shape of the ♂ prothorax, the first-mentioned also having much larger eyes in the male. *S. bilamellata* may be confined to the sea-coast.

10. **Silis ludicra.** (Plate VIII, fig. 73, prothorax, ♂.)

Silis ludicra, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 302 (♂).

Silis ludicra, var. *nigroscutellaris*, Pic, Le Nat. 1910, p. 44 (♂).

Hab. MEXICO, Presidio in Durango [type].

This species was described from a single male example. It is a comparatively broad, robust, rather coarsely pubescent insect, with the pallid anterior portion of the head extending angularly upwards in the middle, the prothorax, the basal joints of the antennae beneath, the scutellum, and the femora to near the tip, testaceous, the rest of the head and the elytra, the pallid sutural and outer margins excepted, nigro-fuscous or black. The antennae are moderately long and stout, tapering outwards; the eyes are small; the prothorax is wider than the elytra at the base, broadly excavate and bifoveate on the disc, and has two broad overlapping lateral lobes, the anterior lobe ciliate and curved inward, the posterior lobe extending further outward, and truncate at the tip; and the elytra are comparatively short, and moderately explanate at the sides. The female from Jalapa mentioned by Gorham as possibly pertaining to *S. ludicra* is here referred to *S. acantholobus*, and the male from San José on the Guatemalan coast, to *S. bilamellata*. Pic has described a variety of *S. ludicra*, from Mexico, under the name *nigroscutellaris*—“Écusson et pattes foncés, pour le reste coloration du *ludicra*, Gorh. Robuste, avec le prothorax fortement et longuement bilobé latéralement, à lobe antérieur dentiforme, postérieur subtronqué au sommet.”

11. **Silis albicincta.** (Plate IX, figs. 74, 75, prothorax, ♂.)

Silis albicincta, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 96, pl. 6, fig. 5 (♂) (excl. var. from Chiriqui).

Hab. COSTA RICA, Irazu [♂ ♀].

Var. Prothorax (♂) broader, the anterior lateral lobe wider, rounded externally, the posterior lobe directed outwards beneath the

anterior one (as in the type) (fig. 75); elytra (♂) slightly shorter and less broadly explanate posteriorly.

Hab. MEXICO (*Mus. Brit.*), Cordova, Toxpam, Teapa [♂ ♀].

The type of this insect, a male from Irazu, has a small, feebly developed prothorax, with a narrow bent anterior lateral lobe, and the elytra long and somewhat broadly explanate posteriorly. The Mexican examples seen (4 ♂♂ and 1 ♀) are slightly different and may have to be separated. The head (except along the anterior margin) and elytra are black, the latter with the sutural and outer margins white or pale testaceous, the prothorax and scutellum are testaceous, and the legs, antennae, and under surface are infusate. The female has the sides of the prothorax simply notched before the hind angles and convergent thence to the apex. The prothorax of the male has a very deep fovea in the centre of the median excavation.

12. *Silis jocosa*. (Plate IX, fig. 76, prothorax, ♂.)

Silis albicincta, var., Gorb., Biol. Centr.-Am., Coleopt. iii, 2, p. 96 (part.).

Silis jocosa, Gorb., loc. cit. p. 301.

Hab. PANAMA, Volcan de Chiriqui, Bugaba.

Differs from *S. albicincta* in the testaceous head, antennae, and legs; the less elongate shape, with the elytra still more dilated posteriorly; the smaller eyes in the male; and the broader prothorax in both sexes, that of the male being much wider than the elytra and with longer and stouter overlapping lateral lobes, the anterior lobe hollowed above and obliquely sagittiform and ciliate behind, leaving a minute window-like opening visible between them. The female has a broader head and the prothorax narrowly notched at the hind angles. Of the twelve specimens seen, three only are males.

13. *Silis festiva*. (Plate IX, fig. 77, prothorax, ♂.)

Silis albicincta, var., Gorb., Biol. Centr.-Am., Coleopt. iii, 2, p. 96 (part.).

Silis festiva, Gorb., loc. cit. p. 301 (♂ ♀).

Silis albicincta, var. *testaceipes*, Pic, L'Échange, xxvi, p. 6 (1910).

Hab. PANAMA, Volcan de Chiriqui.

Differs from *S. albicincta* in the testaceous antennae and legs, the very large eyes of the male, and the broader prothorax in both sexes, that of the male with longer lateral lobes, the anterior lobe angulate externally (as in *S. albicincta*), the posterior lobe narrow as seen from above and strongly sinuate. The black head, and the large eyes and less dilated prothorax of the male, the latter with narrow, differently shaped lobes. separate *S. festiva* from *S. jocosa*, an insect occurring at the same locality. Fifteen specimens seen, four of which are males.

As stated by Gorham (loc. cit. pp. 301, 302), *S. festiva* and *S. jocosa* were originally recorded by him as varieties of *S. albicincta*.

14. *Silis erythrodiscus*, n. sp. (Plate IX, fig. 78,
prothorax, ♂.)

Silis sp. no. 24, Gorh., Biol. Centr.-Am., Coleopt. iii, 2,
p. 306 (♂).

♂. Comparatively short, rather broad, the head and prothorax shining, the elytra opaque, closely fusco-pubescent; black, the prothorax with the entire disc or two transversely placed spots, and the base of the mandibles rufous or rufo-testaceous. Eyes small. Antennae stout, feebly serrate, moderately long. Prothorax short, strongly transverse, feebly canaliculate and broadly, deeply excavate on the disc posteriorly, the space on either side of the cavity tumid, the margins reflexed, bilobate towards the base—the anterior lobe oblique, stout, rounded externally, the posterior lobe narrow, curved, arising from just in front of the sharply reflexed basal margin, and armed with a short slender hook near the apex anteriorly. Elytra comparatively short, blunt at the tip, somewhat explanate laterally from a little below the base, finely sculptured. Legs stout.

Length (excl. head) 4-4½, breadth 1⅔-2 mm.

Hab. MEXICO (*Truqui*, in *Mus. Brit.*), Ciudad in Durango (*Forrer*), Cuernavaca (*Höge*).

Three males, including the one from Durango left unnamed by Gorham, the rufescent portion of the disc of the prothorax in the latter reduced to two spots. In this insect the lateral lobes of the prothorax are narrowly separated and placed further back than usual, and the legs and antennae are stout. The black-margined rufescent prothorax is suggestive of the Guatemalan *Silis sicula*

(known from females only), but the latter has rugosely punctate elytra, etc. *S. erythrodiscus*, therefore, has no near known ally amongst the species here enumerated.

15. *Silis laciniosa*, n. sp. (Plate IX, fig. 79, prothorax, ♂.)

♂. *Silis eroides*, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 296 (part.) (*nec* p. 94).

♂. Moderately elongate, flattened, opaque, thickly pubescent; black, the anterior portion of the head, the mandibles, the sides of the prothorax broadly, and the sides of the elytra to near the apex, to a greater or less extent (leaving a large, anteriorly-narrowed, common black apical patch, which extends broadly up the suture to the base), ochreous. Eyes large (together with the head not so wide as the prothorax); antennae long, dilated and strongly serrate from the third joint, slightly tapering outwards, thickly set with short projecting hairs. Prothorax strongly transverse, about as wide as the basal portion of the elytra, uneven on the disc, broadly arcuate in front, narrow and parallel-sided at the extreme base, the margins reflexed, plicate, and with two overlapping lobes, the anterior one long, backwardly-directed, the posterior one narrow, oblique, arising from near the base, and clubbed at the tip. Elytra moderately long, hard, flattened on the disc, gradually widened to the apex, densely sculptured and obsoletely costate. Inner claw of anterior tarsi, and outer claw of the other tarsi, feebly dilated at the base.

Length (excl. head) $4\frac{1}{2}$ –5, breadth $1\frac{1}{2}$ –2 mm.

Hab. PANAMA, Bugaba.

Described from three precisely similar males. Gorham called attention to the deeply laciniate edges of the prothorax, and the long hind lobe, of these ♂ specimens from Bugaba, and says that both sexes were captured there. No female from that locality is now to be found in the "Biologia" collection. *S. laciniosa* has obviously nothing to do with the similarly coloured *S. eroides* from Guatemala, the smaller eyes, sharply serrate antennae, and the broader, very differently shaped prothorax readily distinguishing the present species, at least in the male sex.

16. *Silis lycoides*. (Plate IX, figs. 80, 81, prothorax, ♂, ♀.)

♀. *Silis lycoides*, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, pp. 91, 290, pl. 5, fig. 21 (♀, not ♂) (part.).

♂. *Silis praemorsa*, Gorh., loc. cit. p. 93.

♂. Eyes large; antennae long, feebly subserrate, rather slender, scarcely narrowed towards the apex; prothorax (fig. 80) narrow, subcampanulate, with a rather broad, very deep, abrupt notch on each side towards the base, the dilated margins drawn out into a long, curved, oblique dentiform prominence in front of the excision and an oblique subtriangular lamella behind it, the latter subtruncate and feebly emarginate at the tip, the hind angles obliterated; inner claw of anterior tarsi, and outer claw of the other tarsi, somewhat dilated at the base.

♀. Eyes much smaller; mandibles curved; antennae short, very stout, joints 3–11 broadly dilated, becoming gradually narrower towards the apex; prothorax (fig. 81) broader, transverse, narrowing from the base, the margins strongly trisinate, the hind angles prominent.

Hab. GUATEMALA, San Gerónimo [type of ♀], Purula [♀], Cerro Zunil [♀ and type of ♂].

Gorham (loc. cit. p. 290) correctly surmised that *S. praemorsa* was the male of his *S. lycoides*, more especially as the two sexes were obtained at the same locality, Cerro Zunil. This Lyciform insect is separable from its allies by the posteriorly dilated, strongly costate elytra, and opaque upper surface, the peculiarly notched prothorax, uncleft tarsal claws, and large eyes of the male, etc. The ochreous humeral patch of the elytra, and the median vitta of the head and prothorax, varies in development, the rest of the body being black. One male and three females seen. A female from Cordova, Mexico, with more feebly costate, almost wholly ochraceous elytra, treated by Gorham as a variety of *S. lycoides*, probably belongs to a different species.

17. *Silis eroides*. (Plate IX, fig. 82, prothorax, ♂.)

Silis eroides, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 94, pl. 6, fig. 6 (♂) (part.) (*nec* p. 296).

♂. Eyes very large (together with the head broader than the prothorax); antennae long, joints 3–11 moderately dilated, subserrate, slightly tapering outwards, densely set with short projecting hairs; prothorax transverse, small, uneven, rugose, the margins reflexed, plicate, abruptly dilated at the middle into a curved, backwardly-directed lobe, very narrowly and obliquely notched behind this, and with the inferior edge dilated into a narrow subtriangular lamella exterior to the obtuse hind angles; elytra much wider than

the prothorax, widened posteriorly; inner claw of anterior, and outer claw of the other tarsi, feebly dilated at the base.

Hab. GUATEMALA, Las Mercedes, Pacific slope.

The type of this species is stated to be the male from Las Mercedes figured. The other examples from the Pacific slope of Guatemala were retained by the author; those quoted by him from Cordova, San Gerónimo, and Bugaba (loc. cit. pp. 94, 296) belong elsewhere. The two males of *S. eroides* before me are opaque above, and have the black apical portion of the elytra extending angularly forwards along the suture nearly or quite to the base, and the rest of their surface, like the sides of the prothorax, ochreous. The elytra are hard and flattened, separately rounded at the tip, and faintly costate on the disc. *S. eroides* is extremely like a Lycid. It has the prothorax shaped very much as in *S. ocularis* (cf. fig. 94).

18. *Silis nodicollis*.

♀. *Silis nodicollis*, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 291 (excl. var.).

An elongate Lyciform insect, black, with the head (except at the sides), prothorax, and elytra, ochraceous and opaque, the disc of the prothorax and the anterior portion of the suture slightly infusate. Antennae moderately long, closely pubescent, broadly dilated from the third joint, tapering outwards, joints 3-10 rounded at the inner apical angle; mandibles bent; eyes rather large; prothorax small, rugose, transversely subquadrate, the margins reflexed and angularly dilated anteriorly and bisinuate thence to the sharp hind angles; elytra elongate, much broader than the prothorax, widened posteriorly, separately rounded at the apex, with distinct smooth raised lines on the disc, the interspaces not very densely punctate.

Hab. PANAMA, Volcan de Chiriqui.

Gorham placed *S. nodicollis* near his *S. lycoides*, where it must remain till the male is discovered.

19. *Silis sepulchralis*. (Plate IX, fig. 83, prothorax, ♂.)

Silis sepulchralis, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, pp. 293, 294 (♂ ♀).

Silis nigrata, Gorh., loc. cit. p. 93 (Quiché specimen, ♂).

♂. Eyes moderately large; antennae nearly reaching the apex of the elytra, thickly clothed with long projecting hairs; prothorax

with the lateral margins obliquely, angularly projecting in front of the very deep, narrow, sub-basal notch, the short basal lamella behind the latter hollowed in the middle, thus appearing bidentate.

♀. Eyes small; mandibles bent; antennae short, not reaching the middle of the elytra, more sparsely pilose; prothorax with the lateral margins simply trisinate, slightly constricted in front of the sharp hind angles.

Hab. GUATEMALA, Totonicapam and Quiché Mts.

The types of this mountain-insect were from Totonicapam, the female being very different from the male. The Quiché male (at first placed by Gorham under *S. nigrita*) has the sides of the prothorax more broadly, and the basal lobe, testaceous, and the humeri similarly coloured. The rest of the body is deep black; the prothorax is strongly transverse in both sexes; the elytra are widened posteriorly, densely punctate, and distinctly costate.

20. *Silis nigrita*. (Plate IX, fig. 84, prothorax, ♂.)

Silis nigrita, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 93 (Chiacam specimens only) (*nec* p. 293).

Polemius (?) *nigritus*, Schaeff., Journ. N. York Ent. Soc. xvi, p. 62.

Moderately elongate, shining, clothed with rather long fuscous pubescence; nigro-piceous or piceous, the head down the middle and in front, the sides of the prothorax, the humeral callus, and the coxae and the base of the femora in one specimen (♂), pale testaceous. Antennae in ♂ reaching to near the apex, and in ♀ to about the middle, of the elytra. Eyes large in ♂, smaller in ♀. Prothorax (♂) rather small, transverse, bicallose on the disc behind, the margins plicate, sinuate, and reflexed, and tridentate towards the base, the backwardly-directed anterior projection separated from the others by a very narrow, oblique, deep notch, the hind angles not prominent; (♀) broader behind, with the margins trisinate and the hind angles acute. Elytra broader than the prothorax in both sexes, somewhat widened posteriorly, roughly sculptured and obsolete costate. Inner claw of anterior tarsi distinctly, and outer claw of the other tarsi feebly, dilated at base in ♂.

Length (excl. head) 5, breadth 2 mm. (♂ ♀.)

Hab. GUATEMALA, Chiacam in Alta Vera Paz, Atlantic slope.

Redescribed from the original pair from Chiacam, the ♂ being marked type. The single example of the same sex

from Quiché (described by Gorham in his diagnosis as a ? ♀ of *S. nigrita*) was subsequently referred by him (loc. cit., p. 293) to *S. sepulchralis*; and the specimens from the other localities quoted in his "Supplement" also belong to other species, *S. panamensis* and *S. fissicollis*. In the two examples seen of *S. nigrita* the testaceous coloration of the head extends angularly upwards to the vertex. Two other females from Guatemala (one acquired long ago by the British Museum, the other from Purula), both in bad condition, may belong here.

21. *Silis fissicollis*, n. sp. (Plate IX, figs. 85, 86,
prothorax, ♂, ♀.)

Silis nigrita, Gorh., Biol. Centr. Am., Coleopt. iii, 2, p. 293
(part.) (nec p. 93).

Moderately elongate, shining, nigro-piceous or piceous, the head in front, a spot on the vertex, the sides of the prothorax broadly, the coxae, the femora to near the apex, and the tips of the tarsi, testaceous; clothed with rather long fine pubescence. Antennae (♂) long, closely set with short projecting hairs; (♀) a little shorter and more sparsely pilose. Mandibles curved in both sexes. Eyes large in ♂, smaller in ♀. Prothorax (♂) transverse, obliquely bicallose on the disc behind, and with a short carina in the intervening space, the margins plicate, sinuate, and reflexed, strongly bidentate towards the base (the two dentiform projections separated by a narrow deep notch, the anterior tooth oblique, angular, the other straight, rounded at the apex), and constricted anteriorly and immediately before the acute hind angles (fig. 85); (♀) more rounded at the sides, less narrowed in front, the margins thickened anteriorly, and constricted before the prominent hind angles (fig. 86). Elytra in ♂ about as wide as, in ♀ broader than, the prothorax, subparallel, roughly sculptured. Inner claw of anterior tarsi with a prominent angular lobe, and outer claw of the other tarsi, with a smaller lobe, in ♂.

Length (excl. head) 5-6, breadth $1\frac{1}{2}$ - $1\frac{3}{4}$ mm. (♂ ♀.)

Hab. GUATEMALA, San Isidro and Las Mercedes, Pacific slope.

A pair from San Isidro (labelled *S. nigrita*, var., by Gorham) and two females from Las Mercedes. In the male of this insect the lateral prominences of the prothorax are more developed than in *S. nigrita* and *S. panamensis*, and the dentiform lobe of the inner anterior tarsal claw is

very conspicuous. The prothorax of the female is not widened posteriorly as in *S. nigrita*, and it is less transverse than in *S. panamensis*. The antennae of the male are densely pilose, as in *S. panamensis*. An abraded male from Calderas with the prothorax and legs darker probably belongs to the present species.

22. *Silis panamensis*, n. sp.

Silis nigrita, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 293 (part.) (*nec* p. 93).

Moderately elongate, shining, finely pubescent; nigro-piceous or piceous, the anterior portion of the head, the base of the mandibles, the sides of the prothorax broadly, the elytral humeri, and sometimes the femora in great part, testaceous. Mandibles abruptly bent in ♀. Eyes moderately large in ♂, smaller in ♀. Antennae (♂) as long as the body, closely pilose, joint 2 very small; (♀) much shorter, about reaching the middle of the elytra, more sparsely pilose, joint 2 stouter. Prothorax (♂) transverse, narrowed in front and behind, bicallose on the disc towards the base, somewhat rounded at the sides, the margins rather broadly explanate, and obliquely plicate at about the basal third, appearing more or less distinctly toothed in front of the fold; (♀) broader, transversely subquadrate, with the hind angles more distinct and the margins thickened towards the apex. Elytra moderately long, broader than the prothorax, somewhat widened posteriorly, roughly sculptured.

Length (excl. head) 4–4½, breadth 1½ mm. (♂ ♀.)

Hab. PANAMA, Bugaba, Boquete, Volcan de Chiriqui (*Champion*).

Five males and one female, the former quoted under *S. nigrita* by Gorham and the latter left by him under *S. dilacerata*, ♀. Smaller than the Guatemalan *S. oblita*, the head differently coloured; the prothorax (♂) more feebly plicate and less distinctly dentate at the sides, that of the ♀ transversely subquadrate; the mandibles of the ♀ abruptly bent (as in *S. oblita*), instead of curved.

23. *Silis ardua*.

Silis ardua, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 298 (♂ ♀).

Silis paupercula, var. ?, Gorh., loc. cit. p. 299.

Moderately elongate, shining, finely pubescent; piceous or fuscous, the head in front and at the sides behind, the mandibles, the sides of the prothorax narrowly, the sutural and outer margins of the elytra, the femora to near the apex, and the intermediate and posterior tibiae in part or entirely, testaceous. Eyes very large in ♂, much smaller in ♀. Mandibles abruptly bent in ♀. Antennae rather closely pilose in both sexes, long in ♂, a little shorter in ♀, joint 2 small. Prothorax (♂) transverse, narrowed behind, the margins reflexed, plicate, and shallowly notched at the middle, the hind angles not prominent; (♀) widened posteriorly, the margins feebly sinuate and explanate to the base, the hind angles prominent. Elytra long, subparallel, wider than the prothorax, roughly sculptured.

Length (excl. head) $4\frac{1}{2}$ –5, breadth $1\frac{1}{2}$ – $1\frac{3}{4}$ mm. (♂ ♀.)

Hab. PANAMA, slopes of the Volcan de Chiriqui.

Redescribed from three males and six females. The mandibles of the female are incorrectly described by Gorham in his diagnosis, as "fortiter curvatis," as shown by the ♀ of *S. ardua* dissected by him and his comparative remarks on that species under *S. sicula*, the organs in question being abruptly bent, as in the same sex of the last-named insect and *S. oblita*. *S. ardua* is a little more elongate than *S. oblita*; the antennae are infuscate, or have at most the apical joint paler; and the prothorax has the lateral margins, and the elytra the sutural and outer margins, testaceous.

24. *Silis bugabensis*.

♀. *Silis bugabensis*, and var. *apicipennis*, Pic, Mélanges exot.-entom. fasc. v, pp. 4, 5 (March 1913).

Silis lineata, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 296 (nec p. 95).

Silis lineola, Gorh., loc. cit. p. 296 (part.) (Panama specimen).

Moderately elongate, rather shining, somewhat thickly pubescent, the pubescence ochreous on the flavous portions of the surface; nigro-piceous or black, the antennae with from 1–4 of the outer joints, the head and prothorax (a broad continuous median vitta excepted), the elytra (except the suture to a greater or less extent, and often the apical half also [var. *apicipennis*]), and usually the base of the femora, flavo-testaceous. Eyes large in ♂, smaller in ♀. Antennae slender and nearly reaching the apex of the elytra in ♂, shorter in ♀. Prothorax (♂) a little broader than long, rather

narrow, bicallose on the disc posteriorly, the margins somewhat rounded, plicate, narrowly notched behind the middle, dilated before and behind this into a moderately prominent dentiform projection, and constricted in front of the acute hind angles; (♀) subquadrate, with the margins angularly dilated and thickened anteriorly, and sinuate thence to the acute hind angles. Elytra long, wider than the prothorax, parallel or widened posteriorly, flattened on the disc, roughly sculptured and costulate.

Length (excl. head) $4\frac{1}{2}$ – $6\frac{1}{2}$, breadth $1\frac{1}{2}$ – $2\frac{1}{2}$ mm. (♂ ♀.)

Hab. PANAMA, Chiriqui.

Separable from the Mexican and Guatemalan *S. lineata* (= *lineola*) by the less orbicular prothorax, with the two dentiform lateral projections more feebly developed, in the male, and by the yellow tip to the antennae in both sexes. The thirteen examples in the "Biologia" collection vary greatly in the colour of the elytra, more than half of them belonging to the var. *apicipennis*, one having the elytra almost entirely testaceous. Pic. to judge from his description of the prothorax, had females only before him. *S. bugabensis* has the general facies of certain species of the Hispid genus *Chalepus*.

25. *Silis lineata*. (Plate IX, fig. 87, prothorax, ♂.)

Silis lineata, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 95 (♂ ♀) (*nec* p. 296) [*nec S. lineatus*, Gorh., Ann. Soc. Ent. Belg. 1895, p. 315].

Silis lineola, Gorh., loc. cit. p. 296 (♂) (exclud. Panama specimen).

Polemius (?) *lineola*, Schaeff., Journ. N. York Ent. Soc. xvi, p. 62.

Moderately elongate, shining, sparsely pubescent; nigro-piceous, the head and prothorax (a continuous median vitta excepted), the basal third half, or more of the elytra (except along the suture), or the humeri only in some of the Guatemalan specimens, and the basal half or more of the femora, flavo-testaceous. Eyes very large in ♂, smaller in ♀. Antennae sparsely pilose, long in ♂, shorter in ♀. Prothorax (♂) much narrowed anteriorly and strongly constricted before the base (the general outline thus appearing suborbicular, as described by Gorham), the margins dilated into two prominent teeth, which are separated by a deep median notch, the hind angles also acute and prominent; (♀) broader, transversely subquadrate, the margins hollowed at the middle and thickened and angularly

dilated anteriorly, the hind angles prominent. Elytra subparallel, roughly sculptured and distinctly costate. Inner claw of anterior tarsi, and outer claw of the other tarsi, angularly dilated at base.

Length (excl. head) $4\frac{1}{4}$ – $5\frac{1}{2}$, breadth $1\frac{1}{3}$ – $1\frac{1}{2}$ mm. (♂ ♀)

Hab. MEXICO, Jalapa, Atoyac, Teapa; GUATEMALA, Alta Vera Paz.

Gorham (loc. cit. p. 297) states that *S. lineola* is perhaps not quite satisfactorily distinguished from *S. lineata*; there is, in fact, no difference between them, the specimens of the latter (from Cahabon) labelled by him as types are females and those of *S. lineola* (from Chiacam) are males. The Chiriqui examples mentioned, however, in each case, belong to a different species, *S. bugabensis*, Pic. The flavo-testaceous coloration of the elytra often extends to beyond the middle, leaving the suture and apex nigro-piceous, a long series (♂ ♀) captured by Höge and H. H. Smith at Teapa being thus coloured. The author's remarks on the typical male of *S. lineata* apply to the Chiriqui specimens added in the "Supplement" (loc. cit. p. 297) = *S. bugabensis*, Pic.

26. *Silis oblita*. (Plate IX, fig. 88, prothorax, ♂.)

Silis oblita, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 297.
Silis paupercula, Gorh., loc. cit. p. 299 (specim. from Vera Paz).

Moderately elongate, shining, clothed with long pallid pubescence; fuscous or piceous, the points of insertion of the antennae, and usually from 3–5 of the outer joints of the latter, the mandibles—the post-ocular portions of the head, the prothorax (a median vitta or triangular patch on the disc excepted), the elytra usually with the humeri or the sutural and outer margins, and the legs in great part, or the femora at the base, pale testaceous. Eyes very large in ♂, smaller in ♀. Antennae slender, long in ♂, shorter in ♀. Mandibles curved in ♂, abruptly bent in ♀. Prothorax (♂) transverse, constricted before the base and apex (thus appearing rounded at the sides), the margins plicate, reflexed, and feebly notched, the base sinuate, the hind angles sharp; (♀) more transverse, broader behind, the margins trisinate, the hind angles more prominent. Elytra moderately long, subparallel, broader in ♀, roughly sculptured. Inner claw of anterior tarsi, and outer claw of the other tarsi, feebly widened at base in ♂.

Length (excl. head) 4 – $5\frac{3}{4}$, breadth $1\frac{1}{8}$ – $2\frac{1}{8}$ mm. (♂ ♀.)

Hab. Mexico, Jalapa, Tapachula; GUATEMALA, San Juan in Alta Vera Paz, Zapote, Cerro Zunil; COSTA RICA, Irazu; PANAMA, Volcan de Chiriqui [types], Boquete, Bugaba.

A widely distributed variable insect, occurring on both the Atlantic and Pacific slopes. It may be separated from *S. ardua* (at least in the typical form) by the narrowly fusco-vittate prothorax, which is more rounded at the sides and more constricted before the base in the male, and the pale apical joints to the antennae; and from *Polemius pauperculus* by the abruptly bent mandibles of the female and the differently shaped prothorax of the male. In *S. oblita* the antennae and elytra are variable in colour, being sometimes wholly fuscous or piceous, and the prothorax is occasionally immaculate. Gorham's description is contradictory as it stands: the mandibles of the female are said to be strongly curved in the diagnosis and bent in the general description; the male labelled by him as type has the sutural and elytral margins testaceous, of which nothing is said in the description. The types were from Chiriqui, the examples from the more northern localities not being quoted. Thirty-eight specimens are before me, including many males. Two of the three females from Cerro Zunil, those with immaculate prothorax and dark antennae, were enumerated by him under *S. pauxilla*, an insect here referred to the genus *Discodon*.

27. *Silis scabripennis*, n. sp. (Plate IX, fig. 89,
prothorax, ♂.)

Moderately elongate, shining, finely pubescent; black, the anterior portion of the head, the mandibles, and prothorax testaceous or flavo-testaceous. Eyes very large in ♂, a little smaller in ♀. Antennae long and slender, slightly shorter in ♀. Prothorax (♂) small, much broader than long, rounded at the sides, constricted anteriorly and before the base, the margins reflexed, plicate, and very narrowly, obliquely excised behind the middle (the margin in front of the notch acute or toothed and the portion posterior to it triangular), the hind angles obtuse; (♀) broader, less narrowed behind, the margin sinuate, thickened, and subangularly dilated anteriorly, the hind angles acute and prominent. Elytra wider than the prothorax, moderately long, subparallel, roughly sculptured and faintly costate. Inner claw of anterior tarsi angularly, and outer claw of the other tarsi more feebly, dilated at base in ♂.

Length (excl. head) $4\frac{1}{2}$ – $4\frac{3}{4}$, breadth $1\frac{1}{2}$ mm. (♂ ♀.)

Hab. MEXICO (*Truqui, ex coll. Fry*).

Two males and one female. Very like *Discodon melanaspis*, but with the front of the head testaceous, the eyes much larger in both sexes, the prothorax of the male smaller, shorter, and rounded and narrowly incised at the sides (much as in *S. oblita* and its allies), and the tarsal claws unclenched at the tip.

28. *Silis haematodes*. (Plate IX, fig. 90, prothorax, ♂.)

Silis haematodes, Gorb., Biol. Centr.-Am., Coleopt. iii, 2, pp. 93, 294 (♂ ♀).

Hab. GUATEMALA, Pacific slope.

The types of this species, from Capetillo (1 ♂ and 3 ♀ ♀), are very shining and sparsely pilose, and have unusually coarsely, somewhat sparsely punctured, wholly black elytra; the others before me (♂ ♀), from various localities, have more densely punctate, nigro-piceous elytra, with the humeri in some of them testaceous, the base of the femora being also of that colour in three examples. The eyes are moderately large in ♂, smaller in ♀. The prothorax in both sexes is strongly transverse, and has a broad reflexed margin; that of the male has a narrow deep notch at about the basal third, preceded by a sinuous very prominent tooth and followed by a smaller straight tooth; that of the female is broader, with the margins strongly trisinate and the hind angles acute. The inner claw of the anterior tarsi, and the outer claw of the middle tarsi, have an angular tooth at the base in the male.

29. *Silis melanocephala*. (Plate IX, fig. 91, prothorax, ♂.)

Silis melanocephala, Gorb., Biol. Centr.-Am., Coleopt. iii, 2, p. 294 (♂).

Hab. GUATEMALA, Capetillo.

This species is based upon a single male example. It is a form of, and perhaps not really distinct from, *S. haematodes*, which occurred at the same locality, with still longer antennae, a black head and scutellum, and the tooth in front of the lateral notch of the prothorax not curved outwards. According to Gorham the notch is placed nearer the hind angle than in *S. haematodes*, but this is not obvious.*

* He also compares *S. melanocephala* with *S. atripennis* (? *erythroderes*), a nomen nudum.

30. *Silis transfixa*. (Plate IX, fig. 92, prothorax, ♂.)

Silis transfixa, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 295.

Polemius (?) *transfixus*, Schaeff., Journ. N. York Ent. Soc. xvi, p. 62.

Hab. PANAMA, Volcan de Chiriqui.

Recognisable by the rufo-testaceous head, palpi, antennae, prothorax, and scutellum, and black elytra, the legs partly or almost entirely infuscate, the anterior femora at the base and the tibiae and tarsi at most testaceous. Eyes extremely large in ♂, smaller in ♀. Mandibles curved in both sexes. Antennae slender. Prothorax of the male plicate and angularly dilated at the sides, with a slender outwardly-curved tooth in front of the very narrow, oblique, deep, post-median notch; that of the female angularly dilated at the sides beyond the middle and with the hind angles acute, the margins thus appearing strongly trisinate. Represented in the "Biologia" collection by two males and one female.

31. *Silis fulvipes*. (Plate IX, fig. 93, prothorax, ♂.)

Silis fulvipes, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 295.

Polemius (?) *fulvipes*, Schaeff., Journ. N. York Ent. Soc. xvi, p. 62.

Hab. PANAMA, Volcan de Chiriqui, 4000-6000 ft.

An elongate, narrow, finely pubescent insect, with testaceous head, palpi, antennae, prothorax, scutellum, and legs, and plumbeous elytra; the eyes large (♂); the prothorax (♂) rounded at the sides, the reflexed margin with a very narrow, straight notch behind the middle, thus appearing angulate in front of the excision; the elytra finely sculptured; the eighth dorsal segment (= pygidium of Gorham) (♂) divided into two long narrow lobes. The less angulate, more sharply notched sides of the prothorax, and the smaller eyes, etc., of the male separate *S. fulvipes* from *S. transfixa*. The nine examples placed by Gorham under the present species are all of this sex, but a single female left by him under *S. transfixa* probably belongs here: it has the intermediate joints of the antennae and the femora infuscate, the mandibles bent (instead of curved), the margins of the prothorax thickened,

rounded and very feebly sinuate, and the hind angles prominent.

32. *Silis ocularis*. (Plate IX, fig. 94, prothorax, ♂.)

Silis ocularis, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 293 (♂).

Hab. GUATEMALA, El Reposo and Paraiso, Pacific slope.

In this species, based upon two males, the eyes are very large; the antennae are about as long as the body, slender, and closely pilose; the prothorax is very short and broad, the lateral margins explanate, plicate, and with a very deep, narrow, oblique notch behind the middle, the dilated space in front of it appearing broadly hooked; the elytra are piceous, like the basal portion of the head, shining, and comparatively short, the anterior portion of the latter, the prothorax, scutellum, and femora (the tip excepted) testaceous. Length (excl. head) 3-3½ mm.

33. *Silis appendicularis*. (Plate IX, fig. 95, prothorax, ♂.)

Silis appendicularis, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 304 (♂ ♀).

Hab. PANAMA, Volcan de Chiriqui, above 4000 ft.

A small, shining, sparsely pubescent insect, with the anterior portion of the head, the mandibles, and prothorax rufous or rufo-testaceous, the head and prothorax almost smooth, and the elytra roughly sculptured. The prothorax has the narrowly reflexed margins abruptly and strongly dilated posteriorly in both sexes, the dilated portion deeply, narrowly incised in the male (a curved backwardly-directed lobe being thus formed in front of it) and feebly emarginate in the female. The tarsi have one of the claws lobed at the base in the male. The mandibles are curved in the female. One male and three females seen.

34. *Silis aurita*. (Plate IX, fig. 96, prothorax, ♀.)

♀. *Silis aurita*, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 295.

Hab. COSTA RICA, Irazu.

The type of *S. aurita* (♀) superficially resembles *S. haematodes* and *S. erythroderes*, Gorh., *i. e.* it is a shining black insect, with a red head, prothorax, and scutellum.

The general shape of the prothorax, however, approaches that of the same sex of *S. appendicularis*, it being small, strongly transverse, much narrowed anteriorly, and dilated into a prominent thickened blunt tooth at some little distance before the obtuse hind angle. The two other specimens (♀), from the same locality, doubtfully referred by Gorham to *S. aurita*, probably belong to his *S. pauxilla*, a variable insect ranging from Vera Paz to Chiriqui, and (like *S. erythroderes*) here placed under *Discodon*.

35. *Silis chalybeipennis*. (Plate IX, fig. 97, prothorax, ♂.)

Silis chalybeipennis, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 300, pl. 12, fig. 18 (♀).

Hab. PANAMA, Volcan de Chiriqui, 4000–8000 ft.

Recognisable by the testaceous head, antennae, palpi, prothorax, and scutellum, the metallic blue elytra, and the black under surface and legs. The prothorax has a very deep abrupt notch in front of the acute, dentiform hind angles in each sex, and the broadly explanate lateral margins are also hollowed or constricted behind the middle, this being more noticeable in the female than in the male. The inner claw of the anterior tarsi, and the outer claw of the intermediate tarsi, are dilated at the base in the male. Six examples seen. *S. chalybeipennis* should perhaps form the type of a new genus.

The following species cannot be definitely placed till the males are found.

36. *Silis sicula*.

Silis sicula, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 298 (♀).

Hab. GUATEMALA, Purula in Vera Paz.

This species, described from two females (one now without antennae), may be known, at least in ♀, by its rather coarsely, densely, subseriately punctate elytra; the small, strongly transverse prothorax, with testaceous disc and nigro-piceous margins, and the lateral margins sinuate and reflexed; the rather stout, tapering antennae; and the abruptly bent mandibles. *S. sicula* will probably prove to belong to *Polemius* as here understood.

37. *Silis omiltemia*, n. sp.

♀. Elongate, rather shining, black, the mandibles and prothorax (a narrow median vitta and the outer and anterior margins excepted) rufo-testaceous; somewhat thickly clothed (the antennae included) with fuscous pubescence, the hairs on the rufescent portion of the prothorax yellowish. Head broad; mandibles stout, abruptly bent; antennae rather slender, subfiliform, about reaching the basal third of the elytra. Prothorax short, strongly transverse, depressed down the middle behind, somewhat dilated posteriorly, the margins rather broadly explanate, reflexed, sinuate, and constricted at the base, the hind angles prominent. Elytra very elongate, wider than the prothorax, sinuate at the sides (perhaps due to shrinkage after death), rather roughly sculptured and obsoletely costate.

Length (excl. head) 7, breadth $2\frac{1}{2}$ mm.

Hab. MEXICO, Omilteme in Guerrero, 8000 ft. (*H. H. Smith*).

One example. Larger and broader than the Guatemalan *S. sicula*, Gorb.; the mandibles bent as in the female of that species, but stouter; the elytral sculpture not nearly so coarse and more confused; the antennae subfiliform. The prothorax is very short and has a dark reflexed margin as in *S. sicula*, a median vitta, however, being present in *S. omiltemia*. Till the male is discovered the Guerrero insect is perhaps best placed under *Silis*.

38. *Silis lissoderes*, n. sp.

♀. Moderately elongate, shining, fusco-pubescent; black, the front of the head, the mandibles, and the sides of the prothorax broadly (leaving a basally and apically dilated broad black patch on the disc), testaceous. Eyes small. Mandibles abruptly bent. Antennae rather slender, short, barely reaching the basal third of the elytra, pilose. Prothorax short, strongly transverse, gradually narrowed anteriorly, the margins moderately explanate, thickened, and constricted in front of the acute hind angles, the surface almost smooth. Elytra moderately long, wider than the prothorax, parallel, densely, rather finely sculptured and obsoletely costate.

Length (excl. head) $4\frac{3}{4}$ -5, breadth $1\frac{1}{2}$ mm.

Hab. MEXICO, Cuernavaca in Morelos (*H. H. Smith*).

Two females. This insect seems to be allied to *S. sepulchralis*, Gorb., from the Guatemalan mountains, differing from the corresponding sex of that species in the

broader and much smoother head, with the anterior portion testaceous, the almost smooth prothorax, with more thickened margins, the parallel elytra, and the less thickened antennae.

DITEMNOMORPHUS, n. gen.

Tarsi each with one claw cleft at tip in ♂; prothorax with the lateral margins bi-incised, and strongly bilamellate and unispinose in ♂, deeply notched at base in ♀; the other characters as in the section *Ditemnus* of *Silis*.

Type, *Silis rufifrons*, Gorb.

1. *Ditemnomorphus rufifrons*. (Plate IX, figs. 98, ♂, 99 ♀, prothorax.)

Silis rufifrons, Gorb., Biol. Centr.-Am., Coleopt. iii, 2, p. 97 (♂ ♀).

Hab. GUATEMALA, Chiacam in Alta Vera Paz.

One male and three females of this species are available for examination. The prothorax of the male has two long, backwardly-directed lobes on each side, the posterior lobe narrow, hooked at the tip, and armed at the base above with a still longer, slender, acute, oblique spine; that of the female has a deep oblique notch in front of the acute hind angles. The head, prothorax, and scutellum are rufo-testaceous, and the rest of the surface is piceous or black. The mandibles are bent in the female.

PARASILIS.

Parasilis, Gorham, Biol. Centr.-Am., Coleopt. iii, 2, p. 307 (1885).

This genus is based upon two allied forms from Chiriqui, Panama. The diagnosis and remarks on the structural characters must have been taken from the females of *P. colyphoides* (the specimens marked " ? male " by Gorham being also of that sex); there are, however, five males in the "Biologia" series before me. The males of both species have one of the tarsal claws of each foot cleft, the sides of the prothorax obliquely plicate and angularly notched at the middle, the eyes a little larger and more prominent than in the female, and the last ventral segment divided to the base. The very slender filiform antennae, with elongate second joint, the coarsely punctured, parallel-

sided, firm elytra, and the above-mentioned characters of the male, separate *Parasilis* from the allied genera. The terminal joint of both palpi is long, stout, and securiform in each sex. The genital armature is symmetric. There is an unnamed species of *Parasilis* from Ecuador in the British Museum.

1. *Parasilis colyphoides*. (Plate III, fig. 12, ♂.)

Parasilis colyphoides, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 308.

♂. Eyes moderately large, prominent; prothorax as long as broad, narrow, deeply transversely excavate across the disc anteriorly and hollowed down the middle thence to the base, arcuate in front, the margins obliquely plicate and angularly notched at the middle, dilated into a blunt tooth in front of this, and reflexed and slightly sinuate thence to the apex, the space between the notch and the base rounded, convex, and almost immarginate; tibiae somewhat curved; inner claw of anterior tarsi, and outer claw of the other tarsi, cleft at the tip; seventh ventral segment long, divided into two lobes; last dorsal segment drawn out into a long, curved, attenuate lobe on each side, the two lobes meeting at the tip and extending far beyond the seventh ventral segment.

♀. Eyes smaller; prothorax a little shorter, the excavations shallower, the margins somewhat rounded, feebly trisinate, and reflexed throughout; sixth ventral segment shorter, triangularly emarginate in the middle at the apex.

Hab. PANAMA, Volcan de Chiriqui.

Twenty-two specimens seen, five of which are males, one of the latter with an oblique pallid stripe on each elytron. The appendages of the last dorsal segment of the male form a pair of forceps, a somewhat similar structure having been noticed by Gorham in the same sex of *P. vittata*. The terminal segments of the abdomen and the evaginated genital armature are figured on Plate VI, figs. 37, 37a.

2. *Parasilis vittata*.

Parasilis vittata, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 308.

♂. Eyes a little larger than in ♀; prothorax as long as broad, the margins obliquely plicate and angularly notched at the middle,

dilated into a blunt tooth in front of this, and rounded, convex, and almost immarginate from the notch to the base; tibiae curved; tarsal claws as in *P. colyphoides*.

♀. Prothorax smaller and shorter, rounded and feebly bisinuate at the sides, the margins narrowly reflexed throughout.

Hab. PANAMA, Bugaba, Volcan de Chiriqui.

Redescribed from the types, male and female. Smaller than *P. colyphoides*, the legs more slender, the head between and behind the eyes, the prothorax across the middle, and the apices of the femora, tibiae, and tarsi piceous or black; the elytra coarsely punctate, piceous or nigro-piceous, with an oblique stripe running down the disc, and the outer margin and apex also in the male, testaceous. The tip of the abdomen of the male is injured, but the last dorsal segment appears to be drawn out in a lobe on each side beneath (as described by Gorham), much as in *P. colyphoides*.

MALTHASTER.

Malthaster, Gorham, Biol. Centr.-Am., Coleopt. iii, 2, p. 311 (1885).

This genus is based upon a single species, *M. suturalis*, from the mountains of Chiriqui. To the characters given by the author, the following may be added:—Prothorax obliquely grooved on each side before the middle, the margins triangularly notched in ♂ and sinuate in ♀ (as in *Parasilis*, etc.). The tarsal claws and mandibles are simple. The elytra are very long, soft, and completely cover the wings and abdomen. The cleft seventh* ventral segment and the notched margins of the prothorax of the male bring *Malthaster* near *Parasilis*, *Discodon*, *Polemius*, etc.

1. *Malthaster suturalis*. (Plate III, fig. 13, ♀.)

Malthaster suturalis, Gorb., Biol. Centr.-Am., Coleopt. iii, 2, p. 311.

Hab. PANAMA, Volcan de Chiriqui, 8000 ft.

The symmetrical genital armature of the male is figured on Plate VI, figs. 38, 38*a*, *b*, and the prothorax of a specimen of this sex on Plate IX, fig. 100.

* Described by Gorham as the sixth.

Group ICHTHYURINI.

This group may be characterised thus :—Apical joint of the maxillary and labial palpi stout, securiform or cultriform; prothorax subquadrate, entire; elytra greatly abbreviated, leaving the wings in large part exposed; abdominal segments 1–8 each with a small circular orifice at or beneath the outer apical angle (*Ichthyurus*, etc.), the orifice in 1–7 sometimes placed at the tip of an oblique tubuliform process arising from the space between the two surfaces (*Maronius* and *Belotus*), 8 forcipiform or bilobed in one or both sexes; genital armature asymmetric; tarsal claws lobed or toothed at base, or simple, uncleft at tip.

The following known genera belong here :—*Ichthyurus*, *Tryptherus*, *Lobetus*, *Maronius*, and *Belotus*. The circular orifice at or near the tip of each process of the chitinous eighth dorsal segment of the abdomen is conspicuous in all these insects, but that on each side of the preceding segments (except in *Maronius* and *Belotus*) is often hidden beneath the lateral fold in dried specimens. The genital armature of *Maronius* and *Belotus* is very similar to that of the *Chauliognathinae*.

ICHTHYURUS.

Ichthyurus, Westwood, Cabinet Orient. Ent. p. 83 (1848);

Lacordaire, Gen. Coleopt. iv, p. 361.

Biurus, Motschulsky, Études Ent. i, p. 13 (1853).

Diurus, Gemminger et Harold, Cat. Coleopt. vi, p. 1684 (1869).

Various Eastern *Ichthyuri* are now known with the femora and tibiae simple in the two sexes, as in certain Tropical American forms, and these latter cannot therefore be separated from Westwood's genus. The stout, vertical head, the very large, oval or reniform, somewhat narrowly separated eyes (as seen from in front), between which the antennae are inserted close together, the forcipiform or bilobate eighth dorsal segment of the abdomen (usually differing greatly in form in the two sexes), and the feebly-developed asymmetric genital armature of the males, are characteristic. *Lobetus mirabilis*, Gorh., from Mexico, its extraordinary ♂ antennae and maxillary palpi notwithstanding, must be provisionally included in *Ichthyurus*, the general structure of the head, abdomen, etc., agreeing

perfectly with that of the present genus, and differing greatly from that of *Lobetus*, Kies., type *L. torticornis*, from Colombia. *Trypherus*, Lec., type *Malthinus latipennis*, Germ., from N. America, two females of which are available for comparison, has a broader, flatter, basally narrowed head, more widely separated eyes, and a less developed terminal segment to the abdomen.* Amongst the seven Mexican or Central American *Ichthyuri* before me, five are represented by females only. Males of the E. African *I. forcipiger*, Gestro (= *apicalis*, Motsch.), and the Mexican *I. dichelifer* have been dissected for comparison, and they prove to be very closely related. *Malthinus* (*Biurus*) *elegans*, Guér., from Brazil, is obviously an *Ichthyurus*, ♀.

1. *Ichthyurus dichelifer*, n. sp. (Plate III, figs. 14, 14a, ♀.)

Nigro-piceous or piceous, the base of the antennae, the basal half or more of the femora, the margins of the abdomen, and the abdominal forceps in part, flavous or testaceous; the prothorax and elytra yellow, the prothorax with a small oval spot on the disc and a curved streak on each side of it, the latter often with a ramus extending outwards, and the elytral suture rather broadly, piceous. Head (fig. 14a) almost smooth, hollowed between the eyes above, the latter very large in ♂, a little smaller in ♀; antennae (♂ ♀) slender, about reaching the apex of the elytra, joint 2 one-half the length of 3. Prothorax transverse, arcuate in front, the basal and apical margins reflexed; closely, minutely punctate, the disc arcuately depressed towards the base, and usually with a small oblong tubercle in the centre of the depression. Elytra about twice the length of the prothorax hollowed on their outer margin and dehiscent from a little below the base, finely punctate, obliquely grooved below the humeri and subcostate on the disc.

♂. Terminal abdominal segment, dorsal and ventral, produced on each side into a long, stout, somewhat curved, chitinous process, the processes of the dorsal segment very stout, subconical, convex above, and mucronate at the tip inferiorly, that of the ventral segment shorter, narrower, and curved upwards (the two on each side, as seen laterally, forming a pair of forceps); a long narrow median rod, terminating in two slender, straight laciniae, protruding between the two pairs of forceps (Plate VI, figs. 39, 39a); the two segments preceding the terminal one somewhat elongated, and rounded externally.

* Numerous S. American species have recently been described by Pic under *Trypherus*.

♀. Terminal dorsal abdominal segment only produced on each side into a long, flattened, subtriangular process (Plate III, fig. 14).
Length 7-8 mm. (♂ ♀.)

Hab. MEXICO, Chilpancingo in Guerrero (*Höge, H. H. Smith*).

Nine males and eight females, the males readily distinguishable by the double pair of abdominal forceps.

2. *Ichthyurus forficulinus*.

♀. *Tryptherus forficulinus*, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 98, pl. 6, fig. 7.

Hab. GUATEMALA, Quiché Mts.

The unique type of this species is a female. There is a very similar form, ♀, from Sarayacu, Peru, in the British Museum, too imperfect to describe.

3. *Ichthyurus trimaculatus*.

Tryptherus trimaculatus, Pic, Mélanges exot.-entom., fasc. xi, p. 9 (Nov. 1914).

"Grandis, elongatus, fere opacus, niger, infra corpore pro majore parte, capite antice, luteo-testaceis, thorace luteo-testaceo, in disco nigro trimaculato (macula mediana minuta, externis arcuatis), elytris nigris, apice late luteo-testaceo notatis. Long. 10-11 mill." Diffère, à première vue, de *T. forficulinus*, Gorh., par le prothorax orné de 3 macules noires.

Hab. MEXICO, Jalapa (*coll. Pic*).

Apparently a close ally of the Guatemalan *I. forficulinus*, and evidently belonging to the same genus. Included by Pic amongst the species placed under the heading "Descriptions abrégées," the sex, etc., not being mentioned.

4. *Ichthyurus fuscus*.

♀. *Belotus fuscus*, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 99 (excl. var.).

Hab. MEXICO, Yolos in Oaxaca.

Represented in the "Biologia" collection by three imperfect females; the so-called variety from the same locality is a dark male of *Belotus abdominalis*. In these examples the yellow apical patch on the elytra extends forwards along the outer margin to near the humeri, the

rest of the body being piceous or nigro-piceous (the lateral margins of the first three or four abdominal segments excepted), and the legs and antennae are also infusate. The terminal processes of the last dorsal segment are long and subconical, longer than in *I. sallei* and *I. fusciventris*.

5. *Ichthyurus fusciventris*, n. sp.

♀. Moderately elongate, shining, finely pubescent; nigro-piceous, the apices of the elytra broadly yellow, the two basal joints of the antennae and the base of the femora testaceous. Head minutely punctate, transversely depressed between the eyes above, the latter large; antennae slender, about reaching the apices of the elytra. Prothorax transverse, minutely punctate, and with a very small, smooth, oblong tubercle on the middle of the disc. Elytra nearly twice the length of the prothorax, obliquely plicate, and closely punctate. Terminal dorsal segment of the abdomen produced on each side into a triangular process.

Length $3\frac{1}{2}$ mm.

Hab. MEXICO, Chilpancingo in Guerrero (*H. H. Smith*).

Two females. A small form near *I. semiflavus*, with the apices only of the elytra yellow, the prothorax and abdomen infusate, the abdominal appendages flatter. The small tubercle on the prothorax is similar to that present in *I. semiflavus* and *I. dichelifer*. Compared with *I. fuscus*, Gorb., ♀, the present species is much smaller and has the yellow portion of the elytra restricted to the apex and the terminal processes much shorter.

6. *Ichthyurus semiflavus*, n. sp.

♀. Moderately elongate, shining, finely pubescent; piceous, the elytra with an obliquely cut-off outer space yellow (leaving a very large, subtriangular, common, dark scutellar patch), the head between the eyes, the basal joints of the antennae, some irregular sinuous markings on the prothorax, the terminal dorsal abdominal segment (except at the tip), and the base of the femora, testaceous or flavous. Head minutely punctate, broadly depressed between the eyes above, the latter large; antennae moderately slender. Prothorax transverse, closely, minutely punctate, arcuately depressed on the disc towards the base, and with a small, smooth, oblong tubercle in the middle of the depression. Elytra about twice as long as the prothorax, closely punctate and distinctly

costate. Terminal dorsal segment of the abdomen produced on each side into a rather broad subconical process. Legs stout.

Length $4\frac{1}{3}$ mm.

Hab. GUATEMALA, near the city, 5000 ft. (*Salvin*).

One specimen, found placed under *Belotus abdominalis* in the "Biologia" collection. Smaller and less elongate than *I. dichelifer*, ♀, the fuscous portion of the elytra extending outwards to the humeri, the subconical processes of the last dorsal segment much shorter. Three smaller immature females with the prothorax wholly flavous, from Capetillo and Dueñas, must also belong to the same species. Allied S. American unnamed forms are contained in the Fry collection at the British Museum.

7. *Ichthyurus sallei*.

Trypherus sallei, Pic, Mélanges exot.-entom., fasc. vii, p. 19 (Sept. 1913).

"Elongatus, nitidus, griseo-pubescent, nigro-piceus, elytris brunnescentibus, capite antice, antennis ad basin pedibusque pallidis. Long. 5 mill. 5."

Hab. MEXICO, Cordova and Toxpam (*Sallé*), Atoyac (*H. H. Smith*).

Three females seen, two of which were found placed as a variety of *Belotus abdominalis* in the "Biologia" collection. These have the head and prothorax reddish or rufo-piceous and paler than the elytra, the apical margin of the latter being yellowish in one of them, and the tibiae more or less infuscate in their outer half; the upper surface closely, very minutely punctate; and the produced lateral portions of the terminal dorsal segment of the abdomen triangular, much as in the same sex of *I. (Lobetus) mirabilis*, Gorrh.

8. *Ichthyurus mirabilis*.

Lobetus mirabilis, Gorrh., Biol. Centr.-Am., Coleopt. iii, 2, p. 99, pl. 6, figs. 10 (♂), 11 (♀).

Hab. MEXICO, Cordova, Toxpam.

Described by Gorham from two males and two females, and now represented in the "Biologia" collection by a dissected ♂ and the abdomen and hind legs of a ♀. The extraordinary antennae of the male were noticed and figured by him; but he does not mention the equally

peculiar structure of the maxillary palpi, the third joint in this sex being produced on the inner side into a very long slender straight process, which is nearly as long as the stouter, sinuous, outwardly-directed fourth joint (Plate IX, fig. 101).

MARONIUS.

Maronius, Gorham, Biol. Centr.-Am., Coleopt. iii, 2, pp. 100 (1881), 309 (1885).

The type of this genus is *M. dichrous*, and various other Tropical American forms have been described by Pic. Its chief characters are the short, broad, posteriorly constricted head, the large eyes, the securiform apical joint of the palpi, the simple antennae and tarsal claws, the toothed mandibles, the quadrate prothorax, the greatly abbreviated elytra, the broad, bilobate penultimate dorsal segment of the abdomen, and the greatly developed asymmetric genital lobes of the male, these being covered ventrally by an oval convex cap. The species are larger and more robust than those of the closely allied genus *Belotus*. In both these genera segments 1-7 of the abdomen have an oblique tubuliform process on each side arising from the space between the two surfaces and a circular orifice at the tip of the conical lateral protuberance of the penultimate dorsal segment, see Plate III, fig. 15. The males have the terminal segment broad and somewhat twisted, so that a portion of the ventral aedeagal cap is often visible from above.

1. *Maronius dichrous*.

Maronius dichrous, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 100, pl. 6, fig. 9 (♂).

Hab. MEXICO; GUATEMALA; NICARAGUA.

The specimens from Chiriqui added by Gorham in his "Supplement," p. 309, must be separated. The genital armature of *M. dichrous* is figured on Plate VII, figs. 40, 40a, and the ♂ abdomen on Plate III, fig. 15.

2. *Maronius longicollis*, n. sp.

Maronius dichrous, var., Gorh., loc. cit. p. 309, pl. 12, fig. 17 (♀).

Very like *M. dichrous*, but with the prothorax, except at the anterior or hind angles, or along the sides posteriorly, infusate or

black, the prothorax itself less transverse, the securiform apical joint of the maxillary palpi broader in both sexes, the terminal dorsal segment of the abdomen of the male larger, and the genital armature very different, see Plate VII, figs. 41, 41a.

Hab. PANAMA, Chiriqui.

Two males and two females seen.

BELOTUS.

Belotus, Gorham, Biol. Centr.-Am., Coleopt. iii, 2, pp. 99 (1881), 308 (1885) (sine descr.).

Lobetus, Leconte, Trans. Am. Ent. Soc. ix, pp. 58, 59 (*nec* Kiesenwetter).

The type of this genus is *Malthinus abdominalis*, Lec., a species ranging from the Southern United States to Panama and perhaps further southward, and various other allied Tropical American forms belong here. Its principal characters are the simple antennae and tarsal claws, the toothed mandibles, the stout subsecuriform apical joint of the palpi, the greatly abbreviated elytra, the emarginate penultimate dorsal segment of the abdomen, the subquadrate prothorax, the moderately developed head, and the asymmetric genital armature, the various lobes covered ventrally by an oval convex cap, as in *Chauliognathus*. In two of the species the penultimate dorsal segment of the abdomen is formed much as in the females of various *Ichthyuri*. Pic has described several species of *Belotus* from South America.

1. *Belotus abdominalis*.

Malthinus abdominalis, Lec., Proc. Acad. Phil. v, p. 347 (1851).

Lobetus abdominalis, Lec., Trans. Am. Ent. Soc. ix, p. 59.

Belotus abdominalis, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, pp. 99, 308, pl. 6, fig. 8 (♀) (part.).

Belotus fuscus, var., Gorh., loc. cit.

Belotus abdominalis, var. *obscurior*, Pic, Mélanges exot.-entom., fasc. vii, p. 19 (Sept. 1913).

Hab. SOUTHERN UNITED STATES; MEXICO; GUATEMALA; HONDURAS, Ruatan Island; PANAMA.

Sent in abundance from Teapa in Tabasco. The variety with the prothorax infusate to near the base has been

named *obscurior* by Pic. Four species were found mixed under the name *B. abdominalis* in the "Biologia" collection, two of them belonging to *Ichthyurus* and two to *Belotus*. Leconte recorded the species from Panama in 1851. The aedeagus of numerous males has been dissected, showing that one of the two long right lateral lobes is usually retracted and not always visible, see Plate VII, fig. 42. I have seen specimens from Texas, etc.

2. *Belotus acuminatus*, n. sp. (Plate III, figs. 16, ♀; 16a, ♂.)

Shining, finely pubescent, nigro-piceous or piceous, the apices of the elytra yellow, the mandibles, the anterior half of the head in ♂, the prothorax, a faint attenuate space down the middle of the disc of each elytron, the abdomen (the last two segments excepted), and the anterior legs in great part, testaceous. Head somewhat flattened anteriorly, obsoletely punctate, the eyes small; antennae slender, moderately long in the two sexes, joint 3 twice the length of 2. Prothorax transversely subquadrate, obsoletely punctate, the disc transversely excavate laterally. Elytra about twice the length of the prothorax in ♂, longer and more acuminate in ♀, closely punctulate.

♂. Penultimate dorsal segment of abdomen produced into a small conical prominence on each side at apex, the last segment broad and exposed (fig. 16a).

♀. Penultimate dorsal segment of abdomen feebly triangularly produced on each side at apex, the last segment small and narrow.

Length 4-5½ mm. (♂ ♀.)

Hab. PANAMA, Volcan de Chiriqui (*Champion*: ♂ ♀), La Chorrera (*Dolby-Tyler*: ♂ ♀).

Eleven specimens, six of which are males. Separable from *B. abdominalis* by the more acuminate elytra, this being particularly noticeable in the female, and the very different asymmetric genital armature of the male, see Plate VII, fig. 43. The elytra always have a more or less distinct testaceous or yellowish space extending down the middle of the disc from the base. The Chiriqui examples were left by Gorham under *B. abdominalis*.

3. *Belotus maculatus*.

Belotus maculatus, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, pp. 99, 309.

Hab. PANAMA, Chiriqui.

This species must be nearly related to *B. (Malthinus) chevrolati*, Guér., from Brazil, to judge from the author's figure of the latter. The abdomen is entirely testaceous, and the emarginate penultimate dorsal segment of the male has the outer angles deflexed. The head is more narrowed behind the eyes than in *B. abdominalis* and the eyes themselves are more convex. The genital armature is very different from that of the other two species of the genus here enumerated, see Plate VII, fig. 44.

[LOBETUS.

Lobetus, Kiesenwetter, Linn. Ent. vii, p. 244 (1852);
Lacordaire, Gen. Coleopt. iv, p. 362 (1857) (*nec*
Leconte).

The type, ♂, of this genus *L. torticornis*,* Kies., from Venezuela, has the antennae peculiarly formed, the terminal joint of the maxillary palpi long and cultriform, the head broad, and narrowed posteriorly, the eyes prominent and widely separated, the posterior coxae much enlarged, the tarsal claws simple, the penultimate dorsal segment of the abdomen broadly emarginate, leaving a small terminal segment exposed, the seventh ventral segment cleft, and the genital armature asymmetric and greatly developed. The female, subsequently described by Lacordaire, has slender filiform antennae, with a much smaller basal joint and the second and third joints more elongate. There is a pair of this species in the Oxford Museum, apparently received from the traveller A. Sallé, ticketed "Guatemala"; but there must have been some mistake made in labelling, due to Sallé having visited both Venezuela and Guatemala. It is very doubtful whether the various S. American and Antillean *Lobeti* described by Pic in 1906 are really congeneric with *L. torticornis*.]

PSEUDOLOBETUS, n. gen.

Head broad, obliquely narrowed behind the eyes, the latter prominent and widely separated; apical joint of the labial palpi stout, securiform, that of the maxillary pair long and cultriform; mandibles sharply toothed towards the apex within; antennae

* This name was incorrectly printed *torticollis* in the diagnosis of the species, but it was correctly given on pp. 322, 323 of Kiesenwetter's work.

inserted near the inner margin of the eyes, long, slender, similar in the two sexes, joint 2 short; prothorax narrow, subquadrate; elytra abbreviated, obliquely attenuate; penultimate dorsal segment of abdomen truncate or broadly emarginate behind, leaving a small terminal segment exposed, the latter bidentate in ♂; legs slender; tarsal claws toothed at the base; genital armature of ♂ asymmetric.

Type, *Malthinus major*, Gorh.

This genus includes *Malthinus major* and *M. championi*, Gorh., both of which may be at once separated from *Malthinus* by the stout palpi. The rapidly and obliquely narrowed head, the very short second antennal joint, the feebly developed prothorax, and the slender legs, distinguish *Pseudolobetus* from *Trypherus*, Lec. (type *Malthinus latipennis*, Germ.); and the simple antennae, toothed mandibles, and basally toothed tarsal claws separate it from *Lobetus*, Kies.

1. *Pseudolobetus major*. (Plate III, figs. 17, ♂; 17a, ♀.)

Malthinus major, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 102.

♂. Penultimate dorsal segment of abdomen subtruncate, the outer angles deflexed, the small terminal segment strongly bilobed at apex; anterior tibiae bowed inwards towards the apex.

♀. Penultimate segment feebly subconically produced on each side behind, the small terminal segment feebly emarginate.

Hab. PANAMA, Chiriqui.

Eighteen specimens seen, six of which are males. A figure of the genital armature is given on Plate VII, figs. 45, 45a.

2. *Pseudolobetus championi*.

Malthinus championi, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 102.

♂. Penultimate dorsal segment feebly subconically produced on each side behind, the outer angles not deflexed, the small terminal segment armed with two long narrow spiniform processes.

♀. Penultimate dorsal segment as in ♂, the small terminal segment simple.

Hab. PANAMA, Chiriqui.

Ten specimens seen, including three males. Separable from *P. major* by the strongly hirsute legs, a character not mentioned in the original description, and the immaculate rufo-testaceous prothorax. The genital armature, too, is very different, see Plate VII, figs. 46, 46a.

Group MALTHINI.

Gorham included all the genera with abbreviated elytra under this group, but as there are various *Chauliognathi* with the elytra incompletely covering the wings (as in many species of *Malthinus*) it is obvious the character is of little value. The species of the three genera here placed under it agree, however, in having a small, acuminate-ovate apical joint to the maxillary palpi, and, so far as at present ascertained, symmetric genital armature.

THINALMUS.

Thinalmus, Gorham, Biol. Centr.-Am., Coleopt. iii, 2, pp. 101 (1881), 309 (1885).

The two species of this genus, which so far as at present known is peculiar to Central America, have the antennae strongly flabellate in the male and sharply serrate in the female. To the characters given for *Thinalmus*, the following may be added: mandibles sharply dentate within; apical joint of the maxillary palpi small, acuminate-ovate; terminal ventral segment cleft in ♂; genital armature symmetric. No fresh material has come to hand since 1885, and there is therefore nothing to add to Gorham's enumeration; but the opportunity is taken to figure the peculiar genital armature of *T. centrolineatus*, see Plate VII, figs. 47, 47a. A male of *T. pectinicornis* was figured by Gorham. These insects have the general facies of *Malthodes* and *Malthinus*, but the ♂ abdominal structure is suggestive of *Polemius*, *Silis*, etc.

MALTHINUS.

Malthinus, Latreille, Gen. Crust. et Ins. i, p. 261 (1806); Gorham, Biol. Centr.-Am., Coleopt. iii, 2, pp. 102, 309.

The numerous Mexican or Central American species of this genus now known may be grouped thus:—

Elytra short, vaguely punctulate.

Antennae slender, the apical joints not paler than those preceding; elytra usually with a yellow apical spot . . . *Species 1-5.*

Antennae stouter, the apical one or two joints yellow; elytra wholly infusate . . . *Species 6, 7.*

Elytra much longer, nearly covering the wings, coarsely striato-punctate *Species 8-14.*

1. *Malthinus ingens*, n. sp.

Belotus sp. no. 4, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 309.

Elongate, comparatively broad, finely pubescent, shining; rufotestaceous, the eyes black, the tips of the antennae and the elytra fusco-testaceous, the apices of the latter with a darker spot, the wings smoky. Head extremely large, rapidly narrowed behind the moderately developed prominent eyes, closely, excessively minutely punctate; antennae slender, filiform, longer than the body, joints 2-5 increasing in length, 5-9 very elongate. Prothorax transversely subquadrate, sharply margined, uneven, canaliculate down the middle, sparsely, very minutely punctate. Elytra extending to a little beyond the middle of the wings, vaguely punctate and subcostate. Tibiae straight.

Length (excl. head) 7 mm. (♂?.)

Hab. MEXICO, Jalapa.

Gorham mentioned two specimens of this species, the one sent by Mr. Flohr having been retained by him. *M. ingens* seems to possess all the structural characters of *Malthinus*, and as it is very different from any of the other known species of this section there can be no risk in naming it. It is larger and broader than any of the described American *Malthini*, and has extremely elongate antennae.

2. *Malthinus subulatus*, n. sp.

Testaceous, the eyes black, the antennae (except the basal joint beneath) and elytra nigro-piceous, the convex apices of the latter fusco-testaceous, the wings, and the femora and tibiae in part, fuscous. Head very large, transversely convex, arcuately narrowed behind the moderately developed prominent eyes, densely, very minutely punctate, subopaque; antennae slender, not reaching the tips of the wings, joints 2-4 increasing in length. Prothorax shining, transversely subquadrate, somewhat flattened and obso-

letely canaliculate down the middle of the disc, closely, very minutely punctate. Elytra short, rapidly narrowed from near the base, about reaching the middle of the wings, rather coarsely, confusedly punctate and distinctly costate, the apices minutely punctate.

Length $5\frac{1}{2}$ mm. (♀?).

Hab. MEXICO (*Truqui*, in *Mus. Brit.*).

One specimen. This species has the head and prothorax shaped very much as in *M. ingens*, but the antennae are formed as *M. brevipennis* and its allies, and the elytra are very short and rapidly narrowed posteriorly. *M. subcostatus*, Schaeff., from Arizona, must be an allied form with the head black, except in front.

3. *Malthinus laticeps*.

Malthinus laticeps, Gorb., Biol. Centr.-Am., Coleopt. iii, 2, p. 103, pl. 6, fig. 14 (♂).

Hab. GUATEMALA, Calderas on the slope of the Volcan de Fuego.

The type of this species is the unique male figured, the others quoted from San Geronimo, etc., belonging elsewhere. It has the basal joint of the antennae, the palpi, mandibles, and legs, the outer margins of the prothorax, the sides of the body beneath, and the abdomen in part, testaceous, a large spot at the apex of each elytron yellow, and the rest of the body piceous. Antennae much larger than the body, comparatively stout; head broad, the eyes very large; prothorax small; elytra extending to a little beyond the middle of the wings, vaguely punctulate and subcostate.

4. *Malthinus melanocerus*, n. sp.

♂. Nigro-piceous, the points of insertion of the antennae, the mandibles, the margins of the prothorax, the legs, and the abdomen in part, testaceous, the elytra fuscous, with a large yellow spot at the apex. Head together with the moderately large prominent eyes about as wide as the elytra, obliquely narrowed posteriorly, densely, very minutely punctate, thus appearing subopaque; antennae slender, longer than the body. Prothorax small, gradually narrowed anteriorly, shining, sparsely, very minutely punctate. Elytra reaching to about the middle of the wings, vaguely punctulate. Penultimate dorsal segment of the abdomen truncate at

apex, the terminal one shallowly emarginate. Posterior tibiae straight.

Length $4\frac{1}{2}$ mm.

Hab. GUATEMALA, San Gerónimo.

Two specimens, assumed to be males, left by Gorham under *M. laticeps*, but differing from that insect in the less widened, subopaque head, the much smaller eyes, and the more slender, less elongate antennae (formed much as in the male of *M. brevipennis*, Gorh.), with dark basal joint. The elytra are a little longer, and the prothorax narrower, than in *M. brevipennis*.

5. *Malthinus brevipennis*.

Malthinus brevipennis, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 104.

Hab. GUATEMALA, near the city and Dueñas.

The specimens of this species before me apparently include both sexes. It has much smaller eyes than *M. laticeps*, the head pale in front and at the sides behind, the elytra shorter, etc.

6. *Malthinus terminalis*.

Malthinus terminalis, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, pp. 103, 309.

Hab. PANAMA, Chiriqui.

Found in plenty in Chiriqui. The comparatively stout, pubescent antennae (which have the apical one or two joints yellow), the short prothorax, the very short, wholly infuscate, vaguely punctulate elytra, etc., give this insect a different facies from the typical species of the genus. The mandibles are toothed within. The peculiar genital armature of the male is figured on Plate VII, fig. 48.

7. *Malthinus diversicornis*, n. sp.

Malthodes pallipes, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 310 (*nec* p. 105) (part.).

Opaque, the elytra slightly shining; piceous, the front of the head, the mandibles, and legs testaceous or obscure testaceous, the last two joints of the antennae pale yellow; head and prothorax alutaceous, minutely punctate, the elytra vaguely punctulate. Head broad, transversely convex, comparatively short, obliquely narrowed behind the eyes in ♂, the eyes moderately large; mandibles sharply

toothed within; antennae (♂) not so long as the body, stout, serrate, pubescent, joints 2-5 gradually increasing in length. Prothorax transverse, short, nearly as wide as the elytra, rounded at the sides anteriorly, conspicuously margined, and finely canaliculate down the middle of the disc. Elytra not quite reaching the middle of the wings, without trace of costae. Penultimate dorsal segment of abdomen (♂) truncate at apex, the terminal one emarginate.

Length $2\frac{1}{2}$ -3 mm. (♂ ♀.)

Hab. PANAMA, Bugaba, Tolé.

Three males and one female, the latter now wanting the antennae, treated by Gorham as a form of his *Malthodes pallipes*. The present insect is nearly related to *Malthinus terminalis*, Gorb., both having sharply toothed mandibles, differing from that species in its much smaller size, opaque surface, stouter antennae, and short, broad prothorax.

8. *Malthinus semirufus*, n. sp.

Shining, finely pubescent; head, prothorax, and scutellum rufo-testaceous, the head flavous in front, the eyes, antennae (except the basal joints beneath), elytra, wings, under surface in part, and dorsal surface of abdomen piceous or nigro-piceous, the legs and rest of under surface pale testaceous. Head extremely large, obliquely narrowed behind the moderately developed prominent eyes, closely punctate, somewhat tumid on the middle of the vertex; antennae slender, moderately long (outer joints broken off). Prothorax broader than long, a little narrower than the elytra, constricted and much narrowed anteriorly, and sinuate at the sides before the base; sparsely, finely punctate, canaliculate down the middle and transversely depressed on the disc behind. Elytra long, incompletely covering the wings, closely, coarsely striato-punctate, the smoother apical patch vaguely punctulate. Tibiae straight.

Length 5 mm.

Hab. MEXICO (*Mus. Oxon.*).

One specimen, assumed to be a male. A large, exaggerated form of the Guatemalan *M. cruenticeps*, Gorb., with an enormous head and a greatly developed prothorax, both of which are rufo-testaceous in colour.

9. *Malthinus cruenticeps*.

Malthinus cruenticeps, Gorb., Biol. Centr. Am., Coleopt. iii, 2, p. 104 (excl. var., p. 310).

Hab. GUATEMALA, Cubilguitz in Alta Vera Paz, 1050 ft.

Unique. This species may be known by its red head, with the anterior portion flavescens, black prothorax and elytra, and infuscate tibiae and tarsi; head very large, closely punctate, much narrowed behind the prominent eyes, the antennae slender, moderately long; prothorax strongly constricted before the middle and narrow thence to the apex, sparsely punctate, canaliculate on the disc; elytra long, incompletely covering the wings, coarsely striato-punctate. The type is apparently a male. The Chiriqui specimens subsequently referred to the same species must be separated. The localities for these two insects are wholly dissimilar in character and widely distant.

10. *Malthinus flavipes*.

Malthinus flavipes, Gorb., Biol. Centr.-Am., Coleopt. iii, 2, pp. 105, 310.

Hab. GUATEMALA, San Gerónimo in Baja Vera Paz.

Gorham in his "Supplement" (loc. cit. p. 310) expressed some doubt as to his *M. flavipes* being distinct from *M. cruenticeps*, the latter having the basal half of the head black, the prothorax densely punctate and with the tubulate narrow anterior portion still more pronounced, and the legs wholly testaceous. They must be retained as distinct. The type seems to be a male.

11. *Malthinus montivagus*, n. sp.

Malthinus cruenticeps, var., Gorb., Biol. Centr.-Am., Coleopt. iii, 2, p. 310.

Shining, piceous or nigro-piceous, the head (except a dark spot or transverse space towards the base in some examples) rufescent or testaceous, yellowish-white in front, the basal joint of the antennae, the margins of the prothorax, the abdomen and under surface in part, and the legs testaceous, the elytra in one example with the smooth apical space yellow and an indeterminate streak down the disc testaceous. Head large, obliquely narrowed behind the prominent eyes, sparsely, minutely punctate; antennae slender, moderately long, shorter than the body in both sexes. Prothorax small, moderately constricted before the middle and gradually narrowed thence to the apex, sparsely, minutely punctate, canaliculate

on the disc. Elytra long, not quite covering the wings, closely striato-punctate. Legs long; tibiae straight.

Length 4-4½ mm. (♂ ♀.)

Hab. PANAMA, Volcan de Chiriqui 8000 ft.

A long series, showing no approach towards *M. cruenticeps* or its near ally *M. flavipes*. The smaller, testaceo-marginate prothorax, the sides of which are much less constricted before the middle, the smoother head, and the wholly testaceous legs readily distinguish *M. montivagus* from *M. cruenticeps*. The variety with a pale streak down the disc and a yellow apical spot to the elytra approaches the Mexican *M. luteolineatus*, Pic, from which it may be known by the more polished head, etc. The genital armature is figured on Plate VII, figs. 49, 49a, b.

12. *Malthinus luteolineatus*.

Malthinus luteolineatus et var. *notatipes*, Pic, L'Échange, 1910, p. 5.

Hab. MEXICO (*Truqui*, in *Mus. Brit.*), Jalapa.

Three specimens from the Fry collection, one with the posterior knees infusate, doubtless belong to this species, the types of which were from Jalapa. They have long, closely striato-punctate, pale testaceous elytra, with the sutural half more or less infusate and a spot at the apex yellow; the head, except in front, and the disc of the prothorax, piceous or reddish; the basal joint of the antennae testaceous. The head is large and much narrowed behind the prominent eyes, and the prothorax is constricted and much narrowed anteriorly. Length 4½ mm. This Mexican insect is very like the European *M. fasciatus*, Schönh., but differs from it in having the second joint of the antennae more or less infusate, the head and prothorax duller and less distinctly punctate, the prothorax more strongly sinuate at the sides before the middle, and the elytra more elongate.

13. *Malthinus schneideri*.

Malthinus schneideri, Pic, L'Échange, 1910, p. 5.

Malthinus sp. no. 8, Gorb., Biol. Centr.-Am., Coleopt. iii, 2, p. 310.

Hab. MEXICO, Jalapa (*coll. Pic, Höge*).

This insect is almost wholly testaceous, with the excep-

tion of a patch on the vertex and a broad space down the middle of the prothorax, which are infusate, and a yellow spot at the apex of each elytron. Head very large and exserted, rapidly narrowed behind the prominent eyes, shining, and densely punctate; prothorax about as long as broad, abruptly constricted and narrowed anteriorly, shining, very sparsely punctate; elytra long, closely, coarsely striato-punctate; posterior tibiae feebly bowed in male. Length 6 mm.

14. *Malthinus jalapanus*.

Malthinus jalapanus, Pic, L'Échange, 1910, p. 6.

“Très voisine de *schneideri*, d'une coloration analogue (et dont je ne connais qu'un ♂) que je désigne sous le nom de *jalapanus*, est de taille plus petite avec les élytres moins fortement ponctués, la macule foncée de la tête est moins nette, les tibias postérieures sont droites et l'abdomen est distinctement entaillé à son extrémité. Long. 4 mm.”

Hab. MEXICO, ? Jalapa (*coll. Pic*).

Apparently not represented in the Mexican collections before me.

MALTHODES.

Malthodes, Kiesenwetter, Linn. Ent. vii, p. 265 (1852); Gorham, Biol. Centr.-Am., Coleopt. iii, 2, pp. 105, 310.

The three Central-American species described by Gorham are each represented by a single example in the “Biologia” collection, and I have not ventured to soften them so that the mouth-parts could be examined. It is probable that one or more of them belongs to *Malthinus*. *M. gorhami*, Pic, however, has the mandibles unarmed. There is in the same collection an unnamed species from Chihuahua closely related to *M. sanguineicollis*, Gorh., from Chiriqui.

1. *Malthodes pallipes*.

Malthodes pallipes, Gorh., Biol. Centr.-Am., Coleopt. iii, 2, p. 105 (*nec* p. 310).

Hab. GUATEMALA, Zapote and El Tumbador, Pacific slope.

Three dissimilar forms were placed under this name by Gorham, one of which has since been described by Pic,

the other is a *Malthinus*. The type (♂), from Zapote, is a small, shining, nigro-piceous insect, with slender antennae, the last two joints of which are yellow, and rather small eyes.

1 (A). *Malthodes gorhami*.

Malthodes gorhami, Pic, Mélanges exot.-entom., fasc. viii, p. 10 (1913).

Hab. GUATEMALA, Zapote; PANAMA, Bugaba [type], David.

Found by Pic mixed with *M. pallipes* in the Gorham collection. The five specimens before me include the two sexes. The stout, dark, antennae, which are considerably elongated in the male, and the much larger eyes, separate *M. gorhami* from *M. pallipes*. The mandibles are thickened in their basal half, but there is no definite tooth on their inner edge. The abdomen is elongated and not wholly covered by the wings in the male.

EXPLANATION OF PLATES III—IX.

[See *Explanations facing the PLATES.*]